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AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

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RESEARCH PROPOSAL  
QUARTERLY STATUS REPORT

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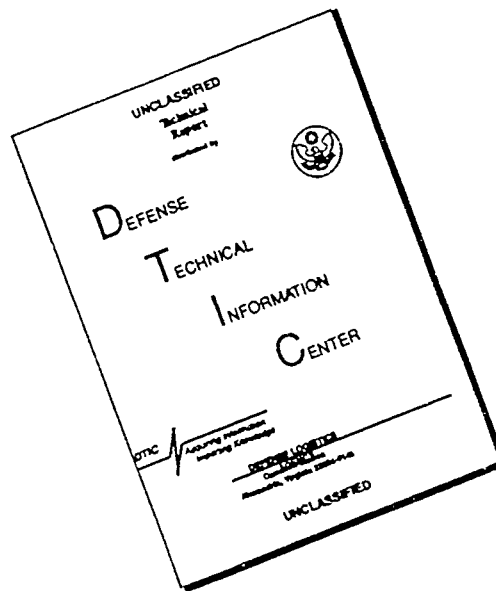
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**RESEARCH PROPOSAL**

**QUARTERLY STATUS REPORT**

**JULY 1991**

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SECURITY CLASSIFICATION OF THIS PAGE

## REPORT DOCUMENTATION PAGE

Form Approved  
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1a. REPORT SECURITY CLASSIFICATION		1b. RESTRICTIVE MARKINGS	
SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE		Approved for public release; distribution unlimited.	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)		5. MONITORING ORGANIZATION REPORT NUMBER(S)	
		AFOSR-TR- 92 0069	
6a. NAME OF PERFORMING ORGANIZATION Air Force Office of Scientific Research	6b. OFFICE SYMBOL (If applicable) XOTD	7a. NAME OF MONITORING ORGANIZATION AFOSR	
6c. ADDRESS (City, State, and ZIP Code) Building 410 Bolling AFB DC 20332-6448		7b. ADDRESS (City, State, and ZIP Code) Building 410 Bolling AFB DC 20332-6448	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION AFOSR	8b. OFFICE SYMBOL (If applicable) XOTD	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER IN-HOUSE	
8c. ADDRESS (City, State, and ZIP Code) Building 410 Bolling AFB DC 20332-6448		10. SOURCE OF FUNDING NUMBERS	
		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) Research Proposal Quarterly Status Report			
12. PERSONAL AUTHOR(S) Debra L. Tyrrell			
13a. TYPE OF REPORT Quarterly	13b. TIME COVERED FROM Apr TO Jun 91	14. DATE OF REPORT (Year, Month, Day) July 91	15. PAGE COUNT
16. SUPPLEMENTARY NOTATION			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)			
This research proposal status report is published quarterly as of March, June, September, and December of each year.			
DISTRIBUTION/AVAILABILITY OF ABSTRACT 1 UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION Unclassified	
20a. NAME OF RESPONSIBLE INDIVIDUAL DEBRA L. TYRRELL		22b. TELEPHONE (Include Area Code) 202-767-9112	22c. OFFICE SYMBOL XOTD

DD Form 1473, JUN 86

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### INTRODUCTION

The Research Proposal Quarterly Status Report is published in March, June, September, and December by the Air Force Office of Scientific Research (AFOSR). It lists all the research proposals received by AFOSR in the previous six months along with the action taken (Initiated, Declined or Withdrawn) on each report.

The report is divided into two parts. The Institution index lists proposals alphabetically by institution. This is followed by a more detailed listing by Directorate, and by Program Manager within the Directorate.

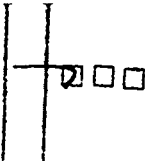
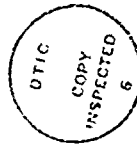
### PURPOSE

This report is designed to inform other Government sponsoring agencies of the proposals received by the AFOSR and the action taken on these proposals. Readers must keep in mind that declined proposals should not necessarily be considered as scientifically unacceptable; many declinations result from a lack of funds or as a result of special programmatic emphasis.

### AFOSR MISSION

The Air Force Office of Scientific Research (AFOSR) is the single manager of the Air Force Defense Research Sciences Program (Program Element 61102F) and the primary Air Force agency for the extramural support of fundamental scientific research. The AFOSR is organized under the Air Force Systems Command, DCS/Technology.

AFOSR awards grants and contracts for research in areas of science relevant to the needs of the Air Force. Research is selected for support from proposals received in response to the Broad Agency Announcement from scientists investigating problems involving the search for new knowledge and the expansion of scientific principles. Selection is on the basis of scientific potential for improving Air Force operational capabilities, originality, significance to science, the qualification of the principal investigators, and the reasonableness of the proposed budget.



Availability Codes	
Dist	Avail and/or Special
A-1	23

KEY TO READING THE DATA

TITLE - The title of the research proposal

INSTITUTION - The organization, (e.d., college/university, company) at which the research will be conducted.

INVESTIGATOR - The Principal Investigators proposing the research.

TYPE - N indicates a new research effort.

- R indicates a continuation of an ongoing research effort.

MONTHS - The duration of the research proposal.

RECEIVED - The month and year in which the AFOSR received the proposal.

AMOUNT - The funds requested of the AFOSR for support of the research proposal.

STATUS - A = ACCEPTED indicates that the review has been completed and the proposal recommended for funding.

- D = DECLINED indicates the proposal has been reviewed but will not be funded by the AFOSR.

- BLANK SPACE = indicates the proposal is being reviewed.

- W = WITHDRAWN indicates that the proposal submitted was removed from further consideration at the proposers request.

PROGRAM MANAGER - The AFOSR scientific staff member assigned the responsibility for the technical evaluation of the proposal.

PROPOSAL # - An AFOSR Directorate assigned control number to uniquely identify the research proposal.

INITIATE - The proposal has been recommended to the AFOSR Directorate of Contracts for the amount and duration.

START DATE - The recommended date for commencement of the research.

TOTAL AMOUNT - The estimated number of dollars recommended for support of the research effort; the actual amount is subject to negotiation.

**AIR FORCE OFFICE OF SCIENTIFIC RESEARCH SCIENTIFIC STAFF DIRECTORY**  
**BOLLING AIR FORCE BASE, DC 20332**

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Dr Mitat Birkan	4987
Dr Leonidas Sake11	4938
Dr Amrutur Srinivasan	4935
Dr John Bots1s	0463
Dr Dan Fant	4937
Lt Col Steven Boyce	0471
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Dr Spencer Wu	4936
Dr Julian Tishkoff	6962
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Dr Henry R. Radoski	4906
Lt Col James A. Lupo	4908

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# PART 1

# PROPOSAL

STATUS	PM NAME
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INSTITUTION INDEX (1 APR 71) - 30 JUL 71)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
STATUS - NA = ACCEPTED, DO = DECLINED, WA = WITHDRAWN

INSTITUTION	LAST NAME	FIRST NAME	MI	PROPOSAL	STATUS	PM NAME
Colorado School of Mines	Collins	Frank	V	91-NP-152		SCHLOSSER
Colorado State University	Collins	George	J	91-NP-153		SCHLOSSER
	Donahue	John	J	91-NC-182	D	LEE
	Frederick	John	M	91-NM-273		SJOGREN
Columbia University	Frederick	John	M	91-NP-098	A	SCHLOSSER
	Goldman	Donald		91-NM-247		GLASSMAN
	Goldman	John		91-NL-105		HADDAD
	Goldman	John		91-NP-107	A	RADOSKI
Computer Aided Design & Simulation Inc.	Goldman	John		91-NM-231	D	GLASSMAN
Cornell Univ. College of Engineering	Goldman	John		91-NP-145	D	DARKER
Cornell University	Goldman	John		91-NE-160		ROSENSTEIN
	Goldman	John		91-NA-123	D	TISHKOFF
	Goldman	John		91-NC-201		ERSTFELD
	Goldman	John		91-NE-198		POMRENKE
	Goldman	John		91-NP-155	A	SCHLOSSER
	Goldman	John		91-NA-154	A	MICHAEL
	Goldman	John		91-NP-131	D	DARKER
	Goldman	John		91-NE-173		POMRENKE
	Goldman	John		91-NC-180	D	HEDBERG
	Goldman	John		91-NP-151	D	DARKER
	Goldman	John		91-NM-222	D	HOLLAND
	Goldman	John		91-NC-176	A	LEE
	Goldman	John		91-NP-173	D	BARKER
	Goldman	John		91-NM-265	A	NACHMAN
	Goldman	John		91-NM-297	A	NACHMAN
	Goldman	John		91-XO-025	A	BOLAND
	Goldman	John		91-NL-100	A	CERVENY
	Goldman	John		91-NC-161	A	LEE
	Goldman	John		91-NC-179	A	LEE
	Goldman	John		91-NM-210		SJOGREN
	Goldman	John		91-NL-115	D	CERVENY
	Goldman	John		91-NP-146	A	BARKER
	Goldman	John		91-NM-213	A	GLASSMAN
	Goldman	John		91-NP-147		BARKER
	Goldman	John		91-NC-155	A	PERRAM
	Goldman	John		91-NA-163	D	SKELL
	Goldman	John		91-NE-140	A	SCHIOLE
	Goldman	John		91-NE-143	D	SCHIOLE
	Goldman	John		91-NE-135	D	SCHIOLE
	Goldman	John		91-NL-079	A	CERVENY
	Goldman	John		91-NL-090	A	HADDAD
	Goldman	John		91-NL-103		HADDAD
	Goldman	John		91-NC-191		BURGGRAF
	Goldman	John		91-NC-159		BURGGRAF
	Goldman	John		91-NM-234	A	JACOBS
	Goldman	John		91-NE-180		POMRENKE
	Goldman	John		91-NC-154	A	LEE
	Goldman	John		91-NM-274		HOLLAND



REPORT OF 67/10/11

INSTITUTION INDEX C: APR 11 - 20 JUN 11  
 ALL PAGES ARE IN THE INDEX OF THE INDEX  
 STATUS - 100 = NOT INDEXED, 101 = INDEXED, 102 = WITHDRAWN

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# INSTITUTION

Minnesota Mining and Manufacturing Co.  
 NASA - Ames Research Center  
 IBM - 101 International and Social Admin  
 National Academy of Sciences  
 National Science Foundation  
 National Science Foundation

David Research Laboratory  
 Electronics Inc  
 New Jersey Institute of Technology  
 New Mexico Institute of Mining and Tech  
 New York University Medical Center  
 Illinois Engineering and Research Co  
 North Carolina State University

Northwestern University  
 Northwestern University  
 Northwestern University

Rockwell International Corp  
 Office of Naval Research  
 Ohio State Univ Research Foundation  
 Ohio State University

Patron Systems Inc  
 Patrons Institute for Study of Science

Patron State University  
 Patrons Ltd.  
 Patrons State University

INSTITUTION INDEX C: APR 11 - 20 JUN 11  
 ALL PAGES ARE IN THE INDEX OF THE INDEX  
 STATUS - 100 = NOT INDEXED, 101 = INDEXED, 102 = WITHDRAWN

INSTITUTION	PROPOSAL	STATUS	PM NAME
Young Men's	91-NC-177		HEDBERG
Ames Research	91-NC-172		BURGGRAB
Marine	91-NP-103	A	LEMKONICZ
Naval	91-NP-163		LEMKONICZ
Naval	91-NC-170	A	STOBIE
Naval	91-NA-173	A	TISHKOFF
Naval	91-NP-170	A	KELLEY
Naval	91-NP-160	A	GARKER
Naval	91-NE-197	A	POMRENKE
Naval	91-NM-232	A	GLASSMAN
Naval	91-NP-149	D	GARKER
Naval	91-NC-186		BERMAN
Naval	91-ML-113		HADDAD
Naval	91-NC-165		STOBIE
Naval	91-NA-141	D	SAKELL
Naval	91-NP-137	D	GARKER
Naval	91-NE-159	D	POMRENKE
Naval	91-NA-134	D	WU
Naval	91-NP-153	D	POMRENKE
Naval	91-NE-171		WITT
Naval	91-NA-145		BOYCE
Naval	91-NM-299		JACOBS
Naval	91-NP-135	A	BARKER
Naval	91-ML-119	A	HADDAD
Naval	91-NM-239		SJOGREN
Naval	91-NM-205	A	WAKSMAN
Naval	91-NE-142	A	ROSENSTEIN
Naval	91-NE-139	A	ROSENSTEIN
Naval	91-NA-170		BOYCE
Naval	91-NA-150	A	MCMICHAEL
Naval	91-NM-243	A	SJOGREN
Naval	91-NC-194	A	BURGGRAB
Naval	91-NC-193	A	ERSTFELD
Naval	91-XO-024	A	OWENS
Naval	91-NA-187	A	TISHKOFF
Naval	91-NA-147	A	SAKELL
Naval	91-NM-261	A	WAKSMAN
Naval	91-NC-202		LEE
Naval	91-NE-155	D	WITT
Naval	91-NE-167		CRAIG
Naval	91-NP-120		BARKER
Naval	91-ML-151		STOBIE
Naval	91-NA-191		BOYCE
Naval	91-ML-099		HADDAD
Naval	91-NC-193		BURGGRAB
Naval	91-NA-177	A	WU
Naval	91-NP-122	A	BARKER
Naval	91-NA-201	A	DIRKAN

INSTITUTION INDEX (1 APR 81 - 30 JUN 81)  
 AND FORCE INDEX OF SCIENTIFIC RESEARCH  
 STATUS - 100 = ACCEPTED, 000 = REJECTED, 100 = WITHDRAWN

INSTITUTION	INVESTIGATOR	PROPOSAL	STATUS	PH NAME
Photon Research Associates Inc.	Concannon, J	91-NA-101	A	TISHKOFF
Physical Sciences Inc.	Farmer, Peter	91-NA-171	A	BIRKAN
Polytechnic Institute of New York	Amis, William	91-NE-124	A	SCHIOLE
Princeton University	Gunn, Ion	91-NC-195	D	ERSTFELD
	Uyval, Steven	91-NA-210		WU
	Kuo, Spencer	91-NC-185		HERMAN
	Baker, T J	91-NP-123	D	BARKER
	Williamson, Irvin	91-NA-193	D	SAKELL
	Johnson, Anthony	91-NA-123	A	TISHKOFF
	Law, C	91-NM-260	A	JACOBS
	Lustig, Irvin	91-NA-162	A	TISHKOFF
	Mulvey, John	91-NM-217	A	GLASSMAN
	Smith, A	91-NM-283	A	GLASSMAN
	Sunshor, Robert	91-NA-155	A	SAKELL
	Sueta, Shanti	91-NE-175		POMRENKE
	Politi, Dimitris	91-NM-263		SJOGREN
	Bojaj, Chenderjit	91-NM-251	N	GLASSMAN
	Fleeter, Leonard	91-NA-302	A	TISHKOFF
	Kin, Glen	91-NA-163	A	TISHKOFF
	Jan, D. Joyce	91-NA-133		BOYCE
	Alon, Kevin	91-NA-209	A	BOLAND
	Mueller, Alon	91-XO-013	A	WITT
	Coran, Robert	91-VE-132		SAKELL
	Dvorak, George	91-NA-141	D	ROSENSTEIN
	Haines, Mark	91-NE-162		BOYCE
	Pixey, Robert	91-NA-134		TANGNEY
	Parson, J.	91-NL-121	A	GLASSMAN
	Bieschke, Marek	91-NM-300	A	JACOBS
	Marshall, David	91-NM-239	A	NACHMAN
	Sefer, I.	91-NE-143	A	SCHIOLE
	Carlson, Patricia	91-NC-189	A	BURGGRAF
	Freeman, Herbert	91-XO-020	A	BOLAND
	Kouler, Glenn	91-NM-241	A	WAKSMAN
	Lebowitz, Jessi	91-NM-089	A	HADDAD
	Taylor, Jean	91-NP-169	A	BARKER
	Leid, Harold	91-NM-253		NACHMAN
	Johnson, Sylvia	91-NA-125		WU
	Shockey, Donald	91-NE-148	D	SCHIOLE
	Leving, Alon	91-NA-192		BOYCE
	Meyerson, H	91-NL-096	A	HADDAD
	Grubin, Harold	91-NE-134		POMRENKE
	Butcliffe, George	91-NE-150	D	WITT
	Cause, William	91-NL-104	A	HADDAD
	McKee, Suzanne	91-NL-087	A	HADDAD
	Vessot, Robert	91-NP-091	A	HADDAD
	Lock, S. David	91-NP-101	A	KELLEY
		91-NM-235	A	GLASSMAN

REPORT DATE: 07/15/71

INSTITUTION: ENC X  
AND FORC. ENC. OF THE UNITED STATES  
STATUS: - 100 = ACC. 000 = CANCELED, \* = WITHDRAWN

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INSTITUTION	INVESTIGATOR	FIRST NAME	LAST NAME	PROPOSAL	STATUS	PM NAME
Southern Methodist University Southwest Research Institute Stanford University	Khatami	Alvin	A	91-NL-694	D	HADDAD
	Richards	Richard	A	91-NL-122	A	SCHIOLE
	Malcolm	Malcolm	A	91-NL-183	A	WEINSTOCK
	David	David	A	91-NP-173	A	SCHLOSSBER
	Dean	Dean	A	91-NA-202	A	SAKELL
	Steven	Steven	A	91-NP-157	A	KELLEY
	Steve	Steve	A	91-NP-167	A	KELLEY
	George	George	A	91-NM-291	A	GLASSMAN
	Joel	Joel	A	91-NA-165	A	SAKELL
	Joseph	Joseph	A	91-NE-177	A	CRAIG
State University of New York - Tech Edn	Stephen	Stephen	J	91-NA-132	A	MCMICHAEL
	David	David	A	91-NM-205	A	HOLLAND
	David	David	A	91-NA-167	A	MCMICHAEL
	Walter	Walter	A	91-NM-286	A	GLASSMAN
	William	William	A	91-NE-174	A	ROSENSTEIN
	Richard	Richard	A	91-NP-127	D	BARKER
	David	David	A	91-NM-289	A	SJOGREN
	Peter	Peter	A	91-NP-154	A	RADOSKI
	Wency	Wency	J	91-NL-101	A	HADDAD
	Michael	Michael	A	91-NE-195	A	WEINSTOCK
State University of New York - Tech Edn	Konstantin	Konstantin	A	91-NE-130	A	WEINSTOCK
	Arthur	Arthur	A	91-NL-099	A	HADDAD
	W.	W.	A	91-NM-245	A	SJOGREN
	Harold	Harold	A	91-NP-104	A	KELLEY
	Darke	Darke	A	91-NM-243	A	GLASSMAN
	Terry	Terry	A	91-NL-111	A	CERVENY
	Robert	Robert	A	91-NM-207	A	SJOGREN
	Robert	Robert	A	91-NM-230	A	SJOGREN
	Carolyn	Carolyn	A	91-NL-109	D	CERVENY
	Conrad	Conrad	A	91-NA-158	A	WU
Texas A and M University	William	William	A	91-NM-257	A	JACOBS
	Richard	Richard	A	91-NE-163	A	ROSENSTEIN
	Peter	Peter	A	91-NP-142	D	BARKER
	John	John	A	91-NM-270	A	NACHMAN
	John	John	A	91-NA-160	A	BOYCE
	Mark	Mark	A	91-NM-240	A	SJOGREN
	Mark	Mark	A	91-NP-118	D	BARKER
	Paul	Paul	A	91-NM-216	A	SJOGREN
	James	James	A	91-NA-164	A	BIRKAN
	James	James	A	91-NP-134	D	BARKER
Texas Tech University	John	John	A	91-NL-083	A	CERVENY
	David	David	A	91-NP-159	A	KELLEY
	Mark	Mark	A	91-NA-175	A	LEE
	James	James	A	91-NA-120	A	FANT
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	James	James	A	91-NL-113	A	CERVENY
	James	James	A	91-NL-073	A	CERVENY
	James	James	A	91-NA-193	A	HEDBERG
	James	James	A	91-NA-193	A	HEDBERG

REPORT DATE: 07/15/61

INSTITUTION AND NAME (1) FOR 91 - 30 JUL 61  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
STATUS - 910 = ACCEPTED, 911 = DECLINED, 912 = WITHDRAWN

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INSTITUTION

UNIVERSITIES

LAST NAME FIRST NAME

PROPOSAL

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PM NAME

INSTITUTION	UNIVERSITIES	LAST NAME	FIRST NAME	PROPOSAL	STATUS	PM NAME
Univ of California	Canberra	Whiditt		91-NA-175		BOYCE
	Stanford	Tom		91-NP-164	A	RADOSKI
	Kalifornia	Julius		91-NE-183		POMRENKE
	Lovermore	C		91-NM-203	A	NACHMAN
	Stanford	Gregor		91-NP-182	D	SCHLOSSBER
	De Anza	John		91-NP-114	D	BARKER
	Stanford	Robert		91-NP-115	D	BARKER
	Stanford	E. Alberto		91-NE-195	A	WEINSTOCK
	Stanford	Edgar		91-NM-231		NACHMAN
	Stanford	Charles		91-NM-211	D	JACOBS
Univ of California	Kokotovic	Peter		91-NP-140		BARKER
	Lalinton	Fernance		91-NM-274	A	JACOBS
	Lin	Anthony		91-NL-110	D	CERVENY
	Lumman	Neville		91-NP-177	A	BARKER
	Lumman, Jr	Neville		91-NP-112	A	BARKER
	Maroden	Jerrold		91-NP-113	D	BARKER
	Michals	James		91-NM-271		NACHMAN
	Michals	Robert		91-NP-139	D	BARKER
	Michals	Robert		91-NE-141	D	SCHOLER
	Michals	Robert		91-NE-147	D	SCHOLER
Univ of California	Michals	Robert		91-NE-125	D	SCHOLER
	Michals	Robert		91-NE-201		WITT
	Michals	Robert		91-NM-284		GLASSMAN
	Michals	Robert		91-NL-085		HAODAD
	Michals	Robert		91-NE-119	A	ROSENSTEIN
	Michals	Robert		91-NA-206	A	BOYCE
	Michals	Robert		91-NL-031	A	CERVENY
	Michals	Robert		91-NM-123	A	BOYCE
	Michals	Robert		91-NL-084	A	CERVENY
	Michals	Robert		91-NA-137	D	AKELL
Univ of California	Michals	Robert		91-NA-169	D	AKELL
	Michals	Robert		91-NE-164	A	CRAIG
	Michals	Robert		91-NL-112	A	CERVENY
	Michals	Robert		91-NP-102	A	KELLEY
	Michals	Robert		91-NA-139	A	BIRKAN
	Michals	Robert		91-NE-184	A	LEE
	Michals	Robert		91-NE-145	A	CRAIG
	Michals	Robert		91-NE-169	D	WEINSTOCK
	Michals	Robert		91-NM-224	A	GLASSMAN
	Michals	Robert		91-NE-163	A	POMRENKE
Univ of California	Michals	Robert		91-NA-152	D	BOYCE
	Michals	Robert		91-NE-127	D	SCHOLER
	Michals	Robert		91-NM-213	A	NACHMAN
	Michals	Robert		91-NE-172	A	POMRENKE
	Michals	Robert		91-NA-139	A	WU
	Michals	Robert		91-NC-160	A	PERRAM
	Michals	Robert		91-NC-177	A	BURGGRAD





REPRODUCTION OF THE  
 AIR CONDITIONING SYSTEM  
 WITHDRAWN

INSTITUTION	LAST NAME	FIRST NAME	PROPOSAL	STATUS	PM NAME
Univ of Missouri	Boelter	Robert	91-NP-172		SCHLOSSBER
	Citpathy	John	91-NE-151		POMRENKE
	Conner	John	91-NP-171		RADOSKI
	Civilians	Konstantine	91-XO-019	A	BOLAND
	Moore	Charles	91-XO-017	A	BOLAND
	Curbeck	Christian	91-NL-117		HADDAD
	Sold	Avrin	91-NL-105		CERVENY
	Kuna	Daniel	91-NL-103		CERVENY
	Parrery	Don	91-NE-194		SUDDARTH
	Smith-Hick	Monamed	91-NA-174		MCMICHAEL
Univ of North Dakota	Miller	Thomas	91-XO-023	A	BOLAND
	Bojce	Ruzina	91-NM-204		WAKSMAN
	Boon	David	91-NE-185		ROSENSTEIN
	Wankatzen	Stanish	91-NE-202		SUDDARTH
	Reit	Fred	91-NE-161		ROSENSTEIN
	Bozoliswski	Roman	91-NE-179	A	WEINSTOCK
	Belvichio	Vito	91-XO-022	A	BOLAND
	Sunderson	Martin	91-NP-125	D	BARKER
	McCurdy	Alvin	91-NP-124	A	BARKER
	Univ of Southern California	Bojce	Stanish	91-NM-289	
Bojce		Alvin	91-NL-120		HADDAD
Forrest		Steven	91-NE-131	M	CRAIG
Jonckhauser		Edmond	91-NM-255		JACOBS
Lynch		James	91-NM-297		SJOGREN
Alsbury		Christopher	91-NE-173		SUDDARTH
Sofonov		Michael	91-NM-253		JACOBS
Fivore		Simon	91-NM-237		GLASSMAN
Alexoff		Isor	91-NP-110	D	BARKER
Univ of Tennessee		Whukar	Waghu	91-NP-136	D
	Walker	Frederick	91-NA-200		BOYCE
	Arizon	John	91-NE-191		SCHIOLER
	Arnos	J. Wesley	91-XO-021	A	BOLAND
	Wahl	Reanna	91-NM-236		GLASSMAN
	Hollins	David	91-NL-093		HADDAD
	Klamar	David	91-NA-142	D	SAKELL
	Kwong	Chia-Lan	91-NP-111	D	BARKER
	Liocenti	Kenneth	91-NE-189	A	POMRENKE
	Univ of Utah	MacFarlane	Donna	91-NA-190	
Boon		Donna	91-NP-123	D	BARKER
Boon		Donna	91-NP-143	D	BARKER
Boon		Donna	91-NP-144		BARKER
Boon		Donna	91-NP-149	D	BARKER
Boon		Donna	91-NA-181		MCMICHAEL
Boon		Donna	91-NE-121	D	SCHIOLER
Boon		Donna	91-NC-153		BURGGRAPH
Boon		Donna	91-NP-183	A	KELLEY
Univ of Virginia		Boon	Donna	91-NM-273	
	Boon	Donna	91-NP-109	A	RADOSKI

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ALL SCIENTIFIC RESEARCH  
STATUS - 000 = ACCEPTED, 001 = PUBLISHED, 002 = WITHDRAWN

INSTITUTION	INVESTIGATOR	LAST NAME	FIRST NAME	PROPOSAL	STATUS	PM NAME
Univ of Washington	David	Michael	David	91-NE-179		POMRENKE
	David	George	David	91-NL-092		HADDAD
	David	David	David	91-NA-132		MCMICHAEL
	David	Peter	David	91-NC-157		STOBIE
Univ of Western Ontario	David	Warren	Warren	91-NP-161	A	KELLEY
	David	Michael	Michael	91-NI-001	A	CAVENDER
	David	James	James	91-NP-166		KELLEY
	David	John	John	91-NP-141	A	BARKER
Univ of Wisconsin	David	John	John	91-NE-152	D	SCHIOLER
	David	Richard	Richard	91-NM-255		NACHMAN
	David	James	James	91-NE-193	A	WEINSTOCK
	David	Paul	Paul	91-NA-143	D	FANT
Univ of Wyoming	David	James	James	91-NC-162		BURGGRAF
	David	James	James	91-NM-272		GLASSMAN
	David	Leonard	Leonard	91-NA-173	A	WU
	David	Raymond	Raymond	91-NA-124		WU
University of Wisconsin-Madison	David	Raymond	Raymond	91-NA-107		BOYCE
	David	Raymond	Raymond	91-NA-193		BOYCE
	David	Raymond	Raymond	91-NE-123	A	SCHIOLER
	David	Raymond	Raymond	91-NM-252		JACOBS
Washington State University	David	Joseph	Joseph	91-NA-173		SAKELL
	David	Joseph	Joseph	91-NA-207		FANT
	David	Joseph	Joseph	91-NL-097	D	HADDAD
	David	Joseph	Joseph	91-NA-193	A	WU
Washington State University	David	Joseph	Joseph	91-NM-227		NACHMAN
	David	Joseph	Joseph	91-NE-157	A	CRAIG
	David	Joseph	Joseph	91-NE-114		CERVENY
	David	Joseph	Joseph	91-NP-155		LUPO
Washington State University	David	Joseph	Joseph	91-NE-123	A	WEINSTOCK
	David	Joseph	Joseph	91-NE-165	A	CRAIG
	David	Joseph	Joseph	91-NE-200	D	WEINSTOCK
	David	Joseph	Joseph	91-NP-106	A	KELLEY
Washington State University	David	Joseph	Joseph	91-NM-267		WAKSMAN
	David	Joseph	Joseph	91-NE-132	A	WITT
	David	Joseph	Joseph	91-NP-116	D	BARKER
	David	Joseph	Joseph	91-NE-203		SUDGARTH
Washington State University	David	Joseph	Joseph	91-NE-153		WITT
	David	Joseph	Joseph			
	David	Joseph	Joseph			
	David	Joseph	Joseph			

## PART II

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EXTERNAL LAB PROPOSALS

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## Header

Leonard

9-125037

Rutherford &amp; Appleton Laboratories

**Kannnetn**

Clive

**Saunders**

Robert

FRANCIS J. J.

33125

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAG' PROPOSAL #	INITIATE START DATE TOT AMT
N 24 11/06/91 \$93,619	A OWENS 91-EX-017	\$48,319 01/09/91 \$83,619
N 36 05/06/91 \$170,351	A OWENS 91-EX-015	\$52,797 01/08/91 \$170,351
N 24 05/06/91 \$63,000	A OWENS 91-EX-016	\$31,500 01/09/91 \$63,000
N 24 17/05/91 \$15,000	A OWENS 91-EX-014	\$7,500 01/09/92 \$15,000
N 36 18/04/91 \$183,383	A OWENS 91-EX-013	\$53,144 01/07/91 \$183,383
N 36 17/04/91 \$150,000	A OWENS 91-EX-012	

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TITLE (CONT.)  
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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
UNIVERSITY RESIDENT RESEARCH PROGRAM Miami University	Rosenel Thomas	R 12 01/04/91 \$11,978	A BOLAND 91-XO-016	\$11,978 01/08/91 \$71,864
UNIVERSITY RESIDENT RESEARCH PROGRAM Purdue University	Thompson H. Doyle	R 03 01/04/91 \$24,730	A BOLAND 91-XO-018	\$24,730 20/05/91 \$24,730
NONPARAMETRIC DISTRIBUTION ESTIMATION FROM CENSORED OBSERVATIONS Univ of Texas	Arton Jorge	R 12 03/05/91 \$66,053	A BOLAND 91-XO-021	\$5,504 01/09/91 \$66,053
PREPLASMA CRYSTALLIC RNA Univ of Scranton	DeVecchio Vito	N 12 06/05/91 \$41,425	A BOLAND 91-XO-022	\$23,188 03/06/91 \$41,425
ELECTRON AND NEGATIVE ION INTERACTIONS WITH MOLECULES Univ of Oklahoma	Miller Thomas	R 12 13/05/91 \$106,826	A BOLAND 91-XO-023	\$30,646 01/06/91 \$106,826
OPTICAL PROPERTIES OF SPACECRAFT THERMAL CONTROL COATING PIGMENTS Alfred University	Cordaro James	N 09 19/06/91 \$75,651	A BOLAND 91-XO-027	\$10,851 01/09/91 \$75,651
AEROBIC EFFECTS ON +GZ TOLERANCE IN HUMANS Florida Univ-Coll of Veterinary Medicine	Bauch Emerson	R 12 20/05/91 \$126,157	A BOLAND 91-XO-026	\$10,483 01/09/91 \$126,157
PHOTIC ENTRAINMENT OF CIRCADIAN RHYTHMS Mercyhurst College	Lutton Lewis	R 01 20/05/91 \$6,427	A BOLAND 91-XO-025	\$6,427 01/08/91 \$6,427
MODELING FOR COMPUTER TIME FOR AFIT ANALYSIS Lawrence Livermore Lab (Calif Univ)	Soan Janelle	N 03 27/06/91 \$10,000	A EWING 91-XO-028	\$10,000 01/06/91 \$10,000

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GOVERNMENT-UNIVERSITY-INDUSTRY RESEARCH ROUNDTABLE

Office of Naval Research

NINE-AND ANTENNA ARRAYS

Univ of New Hampshire

UNIVERSITY RESIDENT RESEARCH PROGRAM

Univ of New Mexico

INTELLIGENT HYPERTEXT SYSTEM FOR TRAINING IN CRITICAL THINKING  
SKILLS

Rose-Hulman Institute of Technology

INV-STIGATOR

Paolletti

Chuck

Sivaprasad

Kondasunt

Moore

Gerald

Carlson

Patricia

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
N 12 15/05/91 \$41,000	A OWENS 91-XO-024	\$41,000 01/07/91 \$41,000
R 12 19/04/91 \$37,827	A BOLAND 91-XO-019	\$12,220 16/07/91 \$37,827
N 12 01/04/91 \$24,849	A BOLAND 91-XO-017	\$24,849 01/05/91 \$60,314
R 12 19/04/91 \$94,209	A BOLAND 91-XO-020	\$12,175 15/08/91 \$94,209

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CONTRIBUTION OF MECHANICAL WORK TO TURBULENCE IN FRC COMPOUND

Inv of Michigan

Antonia

A NEW APPROACH FOR MODELING THE ELASTIC BEHAVIOR OF PLAIN

CONCRETE  
 INSTITUTION

Inv

RAPID CONCENTRATION MEASUREMENTS BY PICOSECOND TIME-RESOLVED  
 LASER-INDUCED FLUORESCENCE

Purdue University

John

A STUDY OF ELECTRO-STATICALLY DRIVEN VISCERAL TURBULENCE  
 INV OF MARYLAND

Anderson

MOLECULAR ANALYSIS OF MULTIPLE DEFORMED LAMINATES WITH INTERPOLY  
 CONTACT CONSTRAINTS  
 INV OF OREGON

Chenman

John

EFFECT OF RAMP-DOWN MOTIONS ON THE HYDRODYNAMIC CHARACTERISTICS OF  
 TWO-DIMENSIONAL VORTEXES  
 INV OF GLASGOW

McDermid

Roderick

EXPERIMENTAL STUDY OF WALL COLLISIONS AND PRESSURE GRADIENTS ON THE  
 LARGE SCALE STRUCTURE AND EVOLUTION OF TURBULENCE

Inv of Texas

Jolliffe

David

THE INFLUENCE OF HIGH TURBULENCE LEVELS ON THE TRANSFER IN  
 INTERNAL FLOWS  
 INV OF AUSTRIA

Jolliffe

Paul

ALL TURBULENCE

Inv of Illinois

Thomson

Thomas

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
N 36 02/04/91 \$291,335	WU 91-NA-125	
N 24 02/04/91 \$197,817	WU 91-NA-126	
N 36 13/04/91 \$375,319	A YISHKOFF 91-NA-133	\$125,015 01/08/91 \$375,318
N 26 16/04/91 \$325,475	D SAKELL 91-NA-136	
N 12 13/04/91 \$125,312	WU 91-NA-139	
N 24 23/04/91 \$153,458	D FANT 91-NA-140	
N 36 23/04/91 \$271,681	D SAKELL 91-NA-142	
N 12 30/04/91 \$23,680	D FANT 91-NA-149	
N 32 30/04/91 \$394,272	MCMICHAEL 91-NA-151	



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TITLE (CONTRACTOR)	UNIVERSITY	PI	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
A NONDESTRUCTIVE ANALYSIS OF DAMAGE	Texas Tech Inc	Chen-Gui	N 36 06/05/91 \$359,754	WU 91-NA-158	
DEVELOPMENT OF THREE-DIMENSIONAL ADAPTIVE GRID GENERATION TECHNIQUES FOR COMPLEX FLOW SIMULATION	Univ of Florida	Chen-Gui	N 36 06/05/91 \$266,326	D SAKELL 91-NA-159	
PROPOSED CONTINUATION FOR AIR FORCE RESEARCH ON HYPERCOMPRESSION TECHNOLOGY CAPABILITY	Turkey University	Sanford	N 12 07/05/91 \$153,241	A TISHKOFF 91-NA-163	\$173,673 15/08/91 \$173,673
A FUNDAMENTAL STUDY OF HYPERBOLIC	Univ of Maryland	Dark	N 24 10/05/91 \$11,997	A SAKELL 91-NA-165	\$43,778 01/10/91 \$81,997
DAMAGE EVOLUTION IN INTERMETALLICS INCLUDING THE EFFECTS OF JAMING INTERACTIONS, PLASTICITY AND TENSILE STRAINS	Univ of Arizona	Chandra	N 36 03/05/91 \$406,051	BOYCE 91-NA-175	
ANISOTROPIC ELASTIC MATERIALS AND COMPOSITES WITH THE EFFECTS OF TEMPERATURE AND PIEZOELECTRICITY	Univ of Illinois	Fin	N 36 06/05/91 \$274,873	WU 91-NA-179	
THE GENERATION OF ORGANIZED STREAMWISE VORTICITY IN THE WAKE OF A WALL	Univ of Utah	Joseph	N 24 10/05/91 \$83,576	MCMICHAEL 91-NA-181	
FAILING INTERFACES IN COMPOSITE MATERIALS	Univ of Texas	Liachin	N 36 06/06/91 \$489,011	BOYCE 91-NA-190	
ACROSTRUCTURE/PROPERTY RELATIONSHIPS FOR LIGHT WEIGHT COMPOSITES	SSI International	Shockey	N 36 06/06/91 \$304,311	BOYCE 91-NA-192	

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 TITLE (CONT.) AIR ORC-ORCIC OF SCIENTIFIC RESEARCH  
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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
NONLINEAR ACOUSTIC PROPERTIES IN SOLID ROCKS UNIV of Colorado	David	R 32 11/06/91 \$4,250,000	A BIRKAN 91-NA-199	\$250,000 01/10/91 \$250,000
ELUSTR-MATRIX INTERFACE MECHANICS AND ITS EFFECT ON COMPOSITE BEHAVIOR AT ROOM AND ELEVATED TEMPERATURES UNIV of Tennessee	Madhu	H 36 19/06/91 \$307,901	BOYCE 91-NA-200	
A NEW METHOD IN THE THEORY AND APPLICATIONS AND TURBULENCE MIXING RUBEN UNIVERSITY	Larance	N 36 20/06/91 \$014,370	MCMICHAEL 91-NA-203	
HIGH RESOLUTION MEASUREMENTS OF MIXING AND COLLECTION PROPERTIES IN TURBULENT FLOWS UNIV of Michigan	Warner	H 36 21/06/91 \$232,292	A TISHKOFF 91-NA-204	\$77,966 01/10/91 \$232,392
SCALAR IMAGING VISCIMETRY STUDIES OF TURBULENT FLOW STRUCTURE AND DYNAMICS UNIV of Michigan	Warner J A	N 24 21/06/91 \$150,834	A MCMICHAEL 91-NA-205	\$83,169 01/10/91 \$156,838
DEVELOPMENT OF INTERACTIVE GLOBAL-LOCAL METHODS FOR MODELING AND ANALYSIS OF HETEROGENEOUS MEDIA Purdue University	C	N 36 27/06/91 \$278,500	BOYCE 91-NA-209	
DIRECT NUMERICAL SIMULATION OF COMPRESSIBLE TURBULENCE BOUNDARY LAYERS United International, Inc	Alon	N 24 30/04/91 \$238,220	D SAKELL 91-NA-148	
AFMUL GRAY 2 SUPPORT FOR HXCON Air Force Research Lab	Mary Ann	H 04 29/04/91 \$7,100	A SAKELL 91-NA-146	\$7,100 01/05/91 \$7,100
NUMERICAL INVESTIGATION OF SURFACE CURVATURE EFFECTS IN TURBULENCE McDonnell Douglas Research Lab	Linda	N 24 30/05/91 \$37,345	A SAKELL 91-NA-193	\$47,238 01/10/91 \$97,345

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TITLE (COUNT) INSTITUTION	RESEARCHER	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
REACTION RATE MEASUREMENTS FOR THE REACTION OF HYDROGEN WITH OXYGEN Kozlov, Borisovskiy, A. A. et al.	John	N 24 25/04/91 \$339,130	D BOYCE 91-NA-144	\$4,000 01/07/91 \$4,000
THE THIRTEENTH INTERNATIONAL COLLOQUIUM ON DYNAMICS OF EXPLOSIONS AND REACTIVE SYSTEMS International Scientific Symposium Kozlov, Borisovskiy, A. A. et al.	John	N 03 12/06/91 \$4,000	A TISHKOFF 91-NA-195	\$47,093 01/11/91 \$96,346
ADDITIVE TURBULENCE DECOMPOSITION OF THE INCOMPRESSIBLE AND COMPRESSIBLE FLUIDS: ANALYTICAL AND NUMERICAL STUDIES Kozlov, Borisovskiy, A. A. et al.	John	N 24 16/04/91 \$96,346	A SAKELL 91-NA-138	\$5,000 15/09/91 \$55,000
ATOMIC AND MOLECULAR PROPERTIES ACCOMPANYING INFORMATION AND STRUCTURE OF METAL-ORGANIC COMPOUNDS Kozlov, Borisovskiy, A. A. et al.	John	N 24 11/06/91 \$113,069	A WU 91-NA-194	\$85,362 01/10/91 \$265,994
MECHANICAL AND CONSTITUTIVE MODELING OF GRANULAR MATERIALS IN FLUID REVERSAL AND CYCLIC LOADING Kozlov, Borisovskiy, A. A. et al.	John	N 36 12/04/91 \$361,394	A BOYCE 91-NA-123	\$25,000 01/09/91 \$50,000
MECHANICAL TRANSPORT PROPERTIES AND STATISTICAL PHYSICS OF GRANULAR MEDIA AND GEOMETRICAL MATERIALS Kozlov, Borisovskiy, A. A. et al.	John	N 36 25/06/91 \$265,994	A BOYCE 91-NA-206	\$25,000 01/09/91 \$50,000
IN-SITU STRUCTURE AND INTERFACIAL STUDIES OF POLYMER-CLAY COMPOSITES (PCC) Kozlov, Borisovskiy, A. A. et al.	John	N 24 04/06/91 \$50,000	A WU 91-NA-185	\$25,000 01/09/91 \$50,000
CHARACTERIZATION OF MASS-PRODUCTION OF VORTICES Kozlov, Borisovskiy, A. A. et al.	John	N 24 14/05/91 \$171,729	D SAKELL 91-NA-169	
NUMERICAL DENSITY MEASUREMENTS WITH A LASER-INDUCED PLASMA Kozlov, Borisovskiy, A. A. et al.	John	N 36 23/04/91 \$223,014	D SAKELL 91-NA-141	

FILE TITLE (CONT.) INSTITUTION	SYNOPSIS	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
MICROSTRUCTURE AND MACROSCOPIC BEHAVIOR OF RANDOM HETEROGENEOUS MATERIALS North Carolina State University	Salvatore	N 36 25/04/91 \$348,245	BOYCE 91-NA-145	
THE USE OF ACTIVE SURFACE CHARGES FOR STRUCTURAL SHAPE CONTROL North Carolina State University	Gordon K	N 36 31/05/91 \$412,879	WU 91-NA-184	
STATIC AND FATIGUE DAMAGE IN HIGH TEMPERATURE COMPOSITES Pennsylvania Polytechnic Institute	George	N 36 15/04/91 \$397,436	BOYCE 91-NA-134	
CONTROL OF BURSTING EVENTS IN A TURBULENT BOUNDARY LAYER Univ of Notre Dame	Monahan	N 36 20/05/91 \$87,874	MCMICHAEL 91-NA-174	
AIRRAFT TRAINING Pennsylvania State University	Domenic	N 12 07/05/91 \$179,135	A TISHKOFF 91-NA-161	\$179,135 15/08/91 \$179,135
THE ROLE OF DROPLET VAPORIZATION IN THE INITIATION AND GROWTH OF COMBUSTION INSTABILITIES Pennsylvania State University	D	N 36 15/05/91 \$154,669	BIRKAN 91-NA-171	
DOMAIN PROCESSES IN FERROELECTRIC CERAMICS Pennsylvania State University	L Eric	N 24 23/05/91 \$139,350	A WU 91-NA-177	\$62,100 01/09/91 \$139,850
LIQUID FLOW COMBUSTION STABILITY USING COAXIAL INJECTORS Pennsylvania State University	Michael	N 15 13/06/91 \$60,000	A BIRKAN 91-NA-201	\$60,000 01/10/91 \$60,000
ADAPTED RESEARCH FOR ADVANCED AIRCRAFT ENGINE STRUCTURES AT TEXAS TECH UNIVERSITY, 1991-92 Texas A and M Research Foundation	Vance J	P 12 06/05/91 \$161,224	A BOYCE 91-NA-160	\$161,224 15/08/91 \$161,224

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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
FAILURE ANALYSIS OF UNIDIRECTIONAL CARBON FIBRE COMPOSITES TESTED AT ELEVATED TEMPERATURES UNDER AXIAL STRESS CONDITIONS Oregon Graduate Center For Study & Reson	Kumosa	N 36 06/06/91 \$246,170	BOYCE 91-NA-191	
CHAOS-ENHANCED TRANSPORT AND AGGREGATION IN CHAOTIC FLOWS Northwestern University	Ottino	N 36 30/04/91 \$332,441	A MCMICHAEL 91-NA-150	\$103,798 01/10/91 \$329,441
THREE-DIMENSIONAL CRACK GROWTH AND STABILITY WITH APPLICATION TO COMPOSITE MATERIALS AND THE GEOPHYSICAL ENVIRONMENT Northwestern University	Leon	N 36 15/05/91 \$310,033	BOYCE 91-NA-170	
ANALYSIS OF FINITE REYNOLDS NUMBER DYNAMIC STALL United Technologies Research Center	Barnett	N 36 01/04/91 \$195,000	FANT 91-NA-120	
INTERAGENCY PROPULSION COMMITTEE Office of Naval Research	Venuto	N 04 05/06/91 \$20,000	A TISHKOFF 91-NA-187	\$20,000 01/06/91 \$20,000
PERTURBED SUPERSONIC TURBULENT BOUNDARY LAYERS Ohio State Univ Research Foundation	Samiy	N 24 23/04/91 \$128,756	A SAKELL 91-NA-147	\$80,000 01/09/91 \$128,756
EXPERIMENTAL & THEORETICAL INVESTIGATIONS IN MANUFACTURE OF MATERIALS & COMPOSITES Michigan Technological University	Aifantis	N 36 16/05/91 \$499,023	A BOYCE 91-NA-172	\$134,335 15/09/91 \$420,663
A COMPUTATIONAL STUDY OF AIRFOILS AND WINGS WITH MOVABLE CONTROL SURFACES USING SOLUTION ADAPTIVE MESHES Univ of Cincinnati	Orkman	N 36 16/04/91 \$127,629	D SAKELL 91-NA-137	
RMS PROCEDURES FOR SHOCK-BOUNDARY LAYER AND INSTABILITY VISCOUS FLUID INTERACTIONS Univ of Cincinnati	Stability	N 36 14/05/91 \$223,917	O SAKELL 91-NA-168	

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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
FULLS COMBUSTION RESEARCH Princeton University	Glitsman Irvin	N 36 08/04/91 \$698,334	A TISHKOFF 91-NA-129	\$297,361 30/09/91 \$698,934
STUDIES OF HYPERSONIC BOUNDARY LAYER BEHAVIOR Princeton University	Salts A	N 36 06/05/91 \$636,692	SAKELL 91-NA-155	
FUNDING FOR FOUR AIRCRAFT STUDENT TRAINERS FOR ACADEMIC YEAR 1991-1992 Princeton University	Law C	N 12 07/05/91 \$128,280	A TISHKOFF 91-NA-162	\$128,280 01/09/91 \$128,280
MESH GENERATION AND FLOW PREDICTION FOR COMPLEX GEOMETRIES Princeton University	Baker T J	N 30 10/06/91 \$296,723	D SAKELL 91-NA-190	
INTERFACE EFFECTS ON COMPOSITES CONTAINING ALIGNED FIBERS Michigan State University	Jasiuk Irons	N 36 09/04/91 \$335,149	WU 91-NA-131	
TAYLOR-LAYERS IN THE PLANE TURBULENT SHEAR LAYER Univ of Washington	Gowling David	N 24 10/04/91 \$195,989	MCMICHAEL 91-NA-132	
DETECTION OF CRACKS IN ROTATING SHAFTS - AN ANALYTICAL AND EXPERIMENTAL INVESTIGATION Virginia Polytechnic Inst & State Univ	Plaut Raymond	N 36 02/04/91 \$616,944	WU 91-NA-124	
REYNOLDS-AVERAGED AND FAVRE-AVERAGED TURBULENCE MEASUREMENTS IN A HIGH-SPEED, HIGH-REYNOLDS-NUMBER SHEAR FLOW Virginia Polytechnic Inst & State Univ	Seneta Joseph	N 36 20/05/91 \$324,453	SAKELL 91-NA-173	
PERFORMANCE IMPROVEMENT OF COMPOSITE AIRCRAFT WINGS THROUGH AEROLASTIC TAILORING AND FLOW CONTROL Virginia Polytechnic Inst & State Univ	Malpovich Leonard	N 36 24/05/91 \$231,220	A WU 91-NA-179	\$78,940 01/09/91 \$281,220

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MICROMECHANICS OF THE PROPERTIES AND PERFORMANCE OF HIGH TEMPERATURE COMPOSITE MATERIAL SYSTEMS Virginia Polytechnic Inst & State Univ	Reifsnider	N 36 18/06/91 \$328,105	BOYCE 91-NA-197	
MECHANICS OF PERFORMANCE SIMULATION FOR HIGH TEMPERATURE COMPOSITE MATERIAL SYSTEMS Virginia Polytechnic Inst & State Univ	Reifsnider	N 36 18/06/91 \$328,105	BOYCE 91-NA-198	
POST-STALL CONTROL OF SWEEP WINGS Virginia Polytechnic Inst & State Univ	Telloni	N 36 25/06/91 \$257,938	FANT 91-NA-207	
ANISOTROPIC JAMME MECHANICS MODELING IN METAL MATRIX COMPOSITES Louisiana State University	Voyiadjis	N 12 05/04/91 \$66,000	BOYCE 91-NA-127	
DEVELOPMENT OF A TECHNIQUE TO DETERMINE THE MORPHOLOGY AND DYNAMICS OF AGGLOMERATES IN CHEMICALLY REACTING FLOWS Louisiana State University	Charalampopoulos	N 36 15/04/91 \$402,872	TISHKOFF 91-NA-135	
SMART ACOUSTICALLY ACTIVE SURFACES FOR FLOW SEPARATION CONTROL IN TURBOMACHINERY Univ of Mississippi	Sinha	N 36 28/05/91 \$110,000	A FANT 91-NA-180	\$25,000 01/09/91 \$110,000
THERMO-MECHANICAL ANALYSIS OF OXIDATION PROTECTED CARBON-CARBON COMPOSITES Materials Sciences Corp	Rosen	N 36 23/05/91 \$485,936	BOYCE 91-NA-176	
THERMO-MECHANICAL PROPERTIES OF CERAMIC COMPOSITES WITH VAPOR DEPOSITED MATRIX MATERIALS Materials Sciences Corp	Rosen	N 36 05/06/91 \$478,731	BOYCE 91-NA-198	
ELECTRICAL ENERGY TRANSFER IN AN ARCJET Texas Tech University	Quhair	N 36 09/05/91 \$236,423	W SIRKAN 91-NA-164	

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FOUNDATION FOR THE DIRECT AND TRANSFORM ELEMENT METHODS IN STRUCTURAL DYNAMICS AND CONTROL THEORY Photon Research Associates Inc.	Chun	N 24 27/06/91 \$361,143	WU 91-NA-210	
CAFRAPT MASSACHUSETTS INSTITUTE OF TECHNOLOGY		R 12 03/05/91 \$193,573	FANT 4 91-NA-153	\$198,573 01/09/91 \$198,573
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Edward	N 24 06/05/91 \$148,084	WU 91-NA-156	
CAPTURE OF INTERFACES IN ADVANCED COMPOSITE MATERIALS	Oral	N 24 06/05/91 \$86,227	WU 91-NA-157	
ACTUATORS AND SENSORS FOR INTELLIGENT STRUCTURES	Edward	N 20 13/06/91 \$99,998	BIRKAN A 91-NA-196	\$99,998 30/09/91 \$99,998
NUCLEAR ROCKET PLUME STUDIES	Daniel	N 36 27/06/91 \$553,313	BOYCE 91-NA-208	
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Lorna	N 36 10/05/91 \$230,163	SAKELL A 91-NA-166	\$88,627 01/10/91 \$280,163
TRANSITION IN HYPERSONIC BOUNDARY LAYERS	Joel	N 36 13/05/91 \$274,925	MCMICHAEL A 91-NA-167	\$132,270 01/10/91 \$274,925
LARGE EDDY SIMULATION OF BACKWARD-FACING STEP FLOW WITH APPLICATION TO COAXIAL JET COMBUSTORS	John	N 17 30/05/91 \$118,673	MCMICHAEL A 91-NA-182	\$118,673 15/09/91 \$118,673
INVESTIGATION OF THE PHYSICS OF THE TURBULENT BOUNDARY LAYER FOCUSING ON VORTEX STRUCTURES	Aline			



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INVESTIGATION OF TURBULENCE EQUATIONS FOR TWO-DIMENSIONAL HYPERSONIC FLOW Stanford University	Chiodini	R 24 19/06/91 \$174,997	A SAKELL 91-NA-202	\$85,856 01/10/91 \$174,997
MEASUREMENTS OF STRAINS AT INTERIOR POINTS USING X-RAY Univ of Connecticut	Jordan	N 36 03/05/91 \$204,657	BOYCE 91-NA-152	
THREE-DIMENSIONAL LAMINAR HYPERVELOCITY FLOW WITH REACTION California Institute of Technology	Pullin	N 24 08/04/91 \$219,502	D SAKELL 91-NA-130	
OXIDATION PROTECTION OF CARBON-CARBON COMPOSITES California Institute of Technology	Kolawa	N 36 04/06/91 \$599,250	BOYCE 91-NA-186	
HIGH TEMPERATURE MECHANICAL BEHAVIOR OF FIBER REINFORCED CERAMIC COMPOSITES California Institute of Technology	Kneuss	N 36 05/06/91 \$453,130	BOYCE 91-NA-189	
ORIGINS OF IMPERFECTIONS IN COMPOSITE MATERIALS Johns Hopkins University	Chimentil	N 36 23/04/91 \$243,400	A WU 91-NA-143	\$77,100 01/09/91 \$243,400
FAST PARALLEL SPAM TOMOGRAPHY FOR TURBULENCE COMBUSTION DIAGNOSTICS Cornell University	Frederick	N 48 03/04/91 \$587,716	D TISHKOFF 91-NA-128	
TURBULENCE MODELLING Cornell University	Lumley	N 36 06/05/91 \$456,750	A MCMICHAEL 91-NA-154	\$144,844 01/10/91 \$456,750

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TITLE FIRM (CONTRACTOR) UNIVERSITY	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
JORDAN ATOM MATRIX CHEMISTRY Univ of Virginia	Andrews Lester	N 12 03/04/91 \$91,898	BURGGRAPH 91-NC-153	
LASER-CHEMISTRY WITH HIGH RESOLUTION Lehigh University	Lindler Daniel	N 12 11/04/91 \$63,455	BURGGRAPH 91-NC-158	
DEVELOPMENT OF PRACTICAL MO TECHNIQUES FOR DETECTION OF THE PROPERTIES AND BEHAVIOR OF MATERIALS Univ of Florida	James Michael J.	N 12 11/04/91 \$129,609	HEDBERG 91-NC-159	
REACTIONS AND SPECTROSCOPY OF SELECTED VITAMINS Univ of Denver	Grando Robert	R 04 11/04/91 \$35,000	PERRAM 91-NC-160	\$35,000 01/07/91 \$35,000
TRANSDUCATION COULOMB ULTRAVIOLET SOL-GEL SILICA OPTICS Sci-Tech, Inc.	Wojcik Jean-Luc	N 24 15/04/91 \$499,935	LEE 91-NC-161	
NONLINEAR OPTICS IN SINGLE CRYSTAL WAVEGUIDES OF ORGANIC SECOND AND THIRD ORDER OPTICAL MATERIALS Auburn University	Phakur Mingol	N 12 21/05/91 \$72,579	LEE 91-NC-173	
STATIC HYDROGEN TRAPPED IN SOLID H <sub>2</sub> Univ of Hawaii	James James	N 12 21/05/91 \$150,675	BURGGRAPH 91-NC-174	
MOLECULAR PRECURSOR ROUTE TO POLYAMIDES UNION CORP.	Kliverter Floyd	N 06 22/05/91 \$51,292	LEE 91-NC-175	\$51,292 01/09/91 \$51,292
PERMEABILITY IN MOLECULES Univ of Florida	Orlitt Rodney	N 12 23/05/91 \$48,760	BURGGRAPH 91-NC-179	\$48,760 01/01/92 \$48,760

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TITLE TITLE (CONT'D) SUBSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
METASTABILITY IN MOLECULES				
Univ of Florida	Porter	N 12 30/05/91 \$153,334	BURGGRAPH 91-NC-181	
ORGANIC AND INORGANIC ALLOY-AND STRUCTURES FOR LAS FILMS WITH ENHANCED WLD PROPERTIES	Michl	N 12 03/06/91 \$130,107	LEE 91-NC-184	
Univ of Colorado	Joset			
PHOTOGENERATED HYDROGEN ATOMS FROM ALKALI METAL REACTIONS IN HYDROGEN CLUSTERS	Young	N 12 05/06/91 \$100,587	BURGGRAPH 91-NC-189	
Univ of Iowa	Mark			
SPECTROSCOPIC STUDIES OF MATRIX-ISOLATED ATOMS, CLUSTERS AND IONS, POSSIBLE HIGH ENERGY SYSTEMS	Vila	N 12 05/06/91 \$223,111	BURGGRAPH 91-NC-190	
Univ of Florida	Martin			
BIO-MIMETIC ROUTES TO OPTICAL AND ELECTRONIC CERAMICS	Colvert	N 12 13/06/91 \$73,533	HEDBERG 91-NC-193	
Univ of Arizona	Paul			
MULTI-INVESTIGATOR RESEARCH PROGRAM (MIRP) THE SCIENCE OF ULTRASTRUCTURAL MATERIALS	Hench	N 12 12/06/91 \$337,038	ERSTFELD 91-NC-195	
Univ of Florida	Larry			
MATRIX STABILIZATION OF NERVOUS TISSUE SPECIES IN AMMONIUM PERSULFATE	Vernker	N 12 16/06/91 \$99,668	BURGGRAPH 91-NC-198	
PAI Research Ltd.	Paul			
NON-LINEAR OPTICAL EFFECTS IN MOLECULES	Porter	N 12 21/06/91 \$44,109	BURGGRAPH 91-NC-200	
Univ of Florida	Joelney			
ULTRASHORT PULSED LASER SPECIES IN TECHNOLOGY	Callman	N 12 24/06/91 \$175,014	BURGGRAPH 91-NC-204	
Univ of Illinois	Andrew			

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TITLE (CONT.)	INVESTIGATOR	STATUS	PROGRAM MANAGER	INITIATE
SUBSTITUTION		PROPOSAL #		START DATE
				TOT AMT
VIBRATIONAL ASSISTED TRANSMISSION LASER				
Physical Sciences Inc	David	BERMAN	91-NC-185	
THE DEVELOPMENT OF AN IMPROVED CUMULUS PARAMETERIZATION FOR				
MEGASCALE NUMERICAL WEATHER PREDICTION MODELS	William Lee	STOBIE	91-NC-164	
Atmospheric Infrared Signal - User Fac				
SYMPOSIUM ON POLYMERIC MATERIALS FOR PHOTOGRAPHIC AND OPTICAL				
APPLICATIONS	John Lund	LEE	91-NC-152	\$2,000
American Chemical Society				01/06/91
CAPT PARTICIPATION FOR OR MEZUR				\$2,000
National Oceanic Atmospheric Admin				
High Contrast Organic Crystal Optical Modulator for Phase Array				
ANTENNA AND OPTICAL SIGNAL PROCESSING APPLICATIONS	Wladimir	STOBIE	91-NC-170	\$5,000
General Electric Co				01/07/91
NOVEL METALLOPHENOLIC POLYMERS FOR ELECTROCHROMIC AND				\$5,000
ELECTROCHROMIC APPLICATIONS	W. H.	LEE	91-NC-178	01/09/91
Univ of Kentucky Research Foundation				\$824,500
ELECTRO-OPTICALLY ACTIVE STEERING USING NON-LINEAR ORGANIC MATERIALS				
LuChen Research Laboratories	Thomas	LEE	91-NC-197	\$59,996
PHOTORETICAL STUDY OF DYNAMICS OF COIL AND ROD POLYMER GELS				01/08/91
Minnesota Mining and Manufacturing Co.				\$59,996
DEVELOPMENT OF CONTINUOUS VISUAL-CHEMICAL LABEL AMPLIFIERS AND				
AMPLIFIERS FOR THE ANALYSIS OF CHEMICAL AND PHYSICAL ANALYSIS	James	PERRAM	91-NC-155	\$35,000
Applied Tech Research Corporation				01/07/91
				\$35,000

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TITLE (CONT.)  
 INSTITUTION

OPTICAL COMPUTING AND OPTICAL SIGNAL PROCESSING

Link Dynamics Incorporated

J. J.

STRUCTURES OF HIGH TEMPERATURE SILICATE GLASS AND THEIR RELATION  
 TO PROPERTIES. PHASE SEPARATION AND CRYSTALLIZATION OF GLASS  
 AMIT

RANGE RESOLVED LASER DOPPLER VELOCIMETRY USING A CW LASER SOURCE  
 AND PSEUDO RANDOM CODE MODULATION FOR RANGE RESOLUTION  
 Holzer

J. F. P.

EXCITED STATE CHEMISTRY OF  $\text{C}_6\text{H}_6$  AND  $\text{NCI}$

Kansas State University

D.

EXPERIMENTAL AND THEORETICAL INVESTIGATION OF SURFACE CHEMISTRY  
 INDUCED BY DIRECT AND INDIRECT ELECTRONIC EXCITATION  
 Peter

1991 MRS SYMPOSIUM ON THE ELECTRICAL, OPTICAL, AND MAGNETIC  
 PROPERTIES OF ORGANIC SOLID STATE MATERIALS  
 Sarito

A.

PHOTOCHEMICAL SYNTHESIS AND CHARACTERIZATION OF  $\text{H}_2$

Rockwell International Science Center

T.

FORMATION AND IDENTIFICATION OF HIGH ENERGY LINEAR AND CYCLIC  
 DI (N = 4-10) POLYMERS  
 Cif Research Institute

Alan

CHARACTERIZATION AND MODELING OF GRANULAR CONDUCTING POLYMERS  
 Colorado State University

Mark

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N 06 22/05/91 \$49,993	A LEE 91-NC-176	\$49,993 01/09/91 \$49,993
12 13/06/91 \$130,734	D ERSTFELD 91-NC-196	
N 12 02/04/91 \$97,462	STOBIE 91-NC-151	
N 12 30/04/91 \$107,000	GERMAN 91-NC-166	
R 12 11/06/91 \$100,000	A BURGGRAF 91-NC-194	\$100,000 01/08/91 \$100,000
N 09 06/05/91 \$6,000	A LEE 91-NC-168	\$6,000 01/08/91 \$6,000
N 12 05/06/91 \$81,530	BURGGRAF 91-NC-188	
N 12 05/06/91 \$101,389	BURGGRAF 91-NC-192	
N 12 30/05/91 \$100,000	D LEE 91-NC-182	

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STRUCTURES AND REACTIONS OF COMPOSITIONALLY MODULATED POLYMERS Oak Ridge National Lab	McKee Rodney	N 12 21/05/91 \$25,000	A ERSTFELD 91-NC-133	\$12,500 01/07/91 \$12,500
QUANTUM MECHANICAL INVESTIGATION OF POLYMER PROPERTIES USING A COMBINATION OF FIRST PRINCIPLE QUANTUM CHEMICAL AND SOLID STATE Investigation of Polymer-Polymer Liquid	Jones	N 12 19/04/91 \$70,063	BURGGRAB 91-NC-162	
ANALYSIS OF STRETCH-REPT DATA Univ of Washington	Loeb Peter	N 12 11/04/91 \$29,771	STOBIE 91-NC-157	
ADVANCED METHODS FOR ATMOSPHERIC MODELING Holliston Environmental and Research Co	Laure	N 24 30/04/91 \$463,705	STOBIE 91-NC-165	
MOLLECULAR DYNAMICS SIMULATION OF STRUCTURE, DYNAMICS AND TRAPPING IN CONDENSED PHASE HIGH DENSITY MATERIALS Louisiana State University	Kellie	N 12 15/05/91 \$170,281	GERMAN 91-NC-171	
DEVELOPMENT OF MULTIPERFORMANCE MATERIALS Michigan Molecular Institute	Tomalia Donald	N 12 11/04/91 \$199,180	A LEE 91-NC-156	\$100,000 01/08/91 \$300,000
AN INITIO DETERMINATION OF FMO- AND FMO-DOY POTENTIALS OF THE LUMO/HOMO SYSTEM AND MOLECULAR DYNAMICS SIMULATION OF THE ... NASA - Ames Research Center	Minifield	N 12 10/05/91 \$35,000	BURGGRAB 91-NC-172	
FLUORESCENCE-CONTAINING POLYMERS FOR NONLINEAR OPTICS State University of New York SUNY Binghamton University	Sinter Kenneth	N 12 28/06/91 \$193,330	LEE 91-NC-203	
ELECTRICAL CONDUCTIVITY OF LOW IMPLANTED LIGAND AND ... UNIVERSITY Ohio State University	Arthur	N 12 27/06/91 \$201,518	LEE 91-NC-202	

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DEFLUORINATED ORGANOMETALLIC AND ORGANO-METALLIC ADDITIVES. PREPARATION OF CERAMICS FOR EL CERAMIC PACKAGING Massachusetts Institute of Technology	Dieter	N 12 20/06/91 \$150,000	HEDBERG 91-NC-199	
COLLOID AND INTERFACE CHEMISTRY ASPECTS OF CHEMICALS Clarkson University	Matickovic	N 12 13/05/91 \$199,427	ERSTFELD 91-NC-169	
DEVELOPING AND TESTING A MECHANICAL SENSITIZATION MODEL OF COMPOSITE EXPLOSIVES New Mexico Institute of Mining and Tech	Pharis	N 12 04/06/91 \$41,113	BERMAN 91-NC-186	
POLYMERIZATION OF CYCLOHEXADIENE DERIVATIVES: METHODS TO POLY(CYCLOHEXADIENE) AND POLY-1,4-BUTADIENE California Institute of Technology	Robert	R 12 01/05/91 \$100,030	A HEDBERG 91-NC-167	\$100,030 01/08/91 \$100,030
SPECTROSCOPY OF METAL-HYDROGEN CLUSTERS California Institute of Technology	Witten	N 12 05/06/91 \$345,374	BURGGRAB 91-NC-187	
STUDY OF DRYING SHRINKAGE IN SILICA GELS Clemson University	Jurstrand	N 12 19/04/91 \$107,431	ERSTFELD 91-NC-163	
SYNTHESIS AND REACTIVITY OF EARLY TRANSITION METAL AMIDES, IMIDES AND MOLECULAR AND SOLID STATE NITRIDE COMPOUNDS Cornell University	Peter	N 12 10/05/91 \$118,002	0 HEDBERG 91-NC-180	
EXPERIMENTAL STUDIES OF METALLIC HYDROGEN AT VERY HIGH PRESSURE Harvard University	Isaac	N 12 05/06/91 \$213,384	BURGGRAB 91-NC-191	
PHOTOLYSIS AND OPTICAL SPECTROSCOPY OF TRANSITION METAL AND VIBRATIONAL SPECTROSCOPY OF POLYMERIZATION OF POLYMERIZATION Cornell University	William	N 12 27/06/91 \$145,000	ERSTFELD 91-NC-201	

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INVESTIGATION OF FRACTURE MECHANISMS IN FERROELASTIC CERAMICS Univ of Utah	Virkar Anil	N 36 08/04/91 \$468,223	D SCHIOLER 91-NE-121	
FRACTURE MECHANICS AND QUANTITATIVE FRACTOGRAPHY APPLIED TO HIGH TEMPERATURE FAILURE OF CERAMIC MATERIALS Univ of Florida	Mecholsky, Jr J	N 36 08/04/91 \$300,000	D SCHIOLER 91-NE-125	
SOL-GEL PROCESSING OF MULTI-DIMENSIONALLY REINFORCED CERAMIC MATRIX CERAMIC MATRIX COMPOSITES Univ of Delaware	Chou Tsu-Mei	N 36 09/04/91 \$388,677	D SCHIOLER 91-NE-127	
CREEP DAMAGE MECHANISMS IN COATED-FIBER GLASS-CERAMIC COMPOSITES Brown University	Nutt Steven	N 36 22/04/91 \$192,495	D SCHIOLER 91-NE-139	
STUDY OF INFORMATION PROCESSING AND INTERCONNECT ARCHITECTURES BASED ON WAVELENGTH-SWITCHING DEVICES Univ of Colorado	Sauer Jon	N 12 06/05/91 \$41,322	A CRAIG 91-NE-145	\$41,322 01/09/91 \$41,322
FIBER MATRIX INTERACTIONS IN CERAMIC COMPOSITES SRI International	Johnson Sylvia	N 36 07/05/91 \$593,568	D SCHIOLER 91-NE-148	
ELECTRONIC STRUCTURE CALCULATIONS OF HYBRID MAGNETIC-SEMICONDUCTOR INTERFACES Univ of Missouri	Satpathy Sashi	N 36 09/05/91 \$146,599	POMRENKE 91-NE-151	
HIGH TEMPERATURE RHEOLOGY OF CONTINUOUS FIBER-REINFORCED CERAMIC MATRIX Univ of Wisconsin	Cooper Reid	N 36 13/05/91 \$393,900	D SCHIOLER 91-NE-152	
SYNTHESIS OF NANOCRYSTALLINE VO-ALUMINUMS BY LASER ABLATION TECHNIQUE Univ of Illinois	Misunder J	N 36 14/05/91 \$495,380	A ROSENSTEIN 91-NE-154	\$160,839 01/11/91 \$2,025,380



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SUPERLATTICE TUNNELING TRANSISTORS AND CIRCUITS Yale University	Reed	N 36 16/05/91 \$625,647	WITT 91-NE-159	
SELF-ORGANIZING PHOTOREFRACTIVE FIBER OPTIC DEMULTIPLEXERS Univ of Colorado	Anderson	N 03 20/05/91 \$20,812	A CRAIG 91-NE-164	\$20,812 01/06/91 \$20,812
INVESTIGATION OF THE HEAT EXCHANGE IN A REGENERATIVE HEAT EXCHANGER FOR AN ORIFICE PULSE-TULSE REFRIGERATOR Univ of Colorado	Timmerhaus Klaus	N 12 23/05/91 \$51,129	D WEINSTOCK 91-NE-169	
THE CHARGING EFFECT IN HIGH TCC SUPERCONDUCTING THIN FILMS Univ of Rochester	Sonolowski Roman	N 24 23/05/91 \$175,000	A WEINSTOCK 91-NE-170	\$90,000 01/10/91 \$175,000
SCIDGCEVC ALLOYS FOR OPTOELECTRONIC DEVICES Univ of Delaware	Kolodziej James	N 36 23/05/91 \$54,375	A POMRENKE 91-NE-172	\$26,690 01/09/91 \$54,375
1991 INTERNATIONAL SEMICONDUCTOR DEVICE RESEARCH SYMPOSIUM (ISDRS-91) Univ of Virginia	Shur Michael	N 07 05/06/91 \$5,000	POMRENKE 91-NE-179	
SEMICONDUCTOR DEVICES-LOADED AND CONFORMAL MILLIMETER WAVE DIFFRACTIVE GRATING Purdue University	Webb Kevin	N 36 11/06/91 \$365,990	WITT 91-NE-182	
MOLECULAR BEAM EPITAXY (MBE) GROWTH OF NOVEL SEMICONDUCTOR HETEROSTRUCTURES FOR NONLINEAR OPTICS Univ of Arizona	Khitrava Galina	N 36 11/06/91 \$251,265	POMRENKE 91-NE-183	
DEVELOPMENT OF SI LIGHT EMITTING TECHNOLOGY BASED ON SI QUANTUM WIRES Univ of Texas	Kuang Diao-Lee	N 25 15/06/91 \$199,988	A POMRENKE 91-NE-188	\$99,994 15/09/91 \$199,988

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HIGH-TEMPERATURE STABILITY OF MARE-GROWN MULTILAYER CERAMIC COMPOSITES Univ of Tennessee	Walker Frederick	N 36 25/06/91 \$397,464	SCHIOLER 91-NE-191	
INTERFACES IN COMPOSITES Univ of Maryland	Arsenault Richard	N 36 26/06/91 \$508,255	SCHIOLER 91-NE-192	
SUPERCONDUCTIVE ELECTRONIC DEVICES USING FLUX QUANTA Univ of Wisconsin	Norman James	N 36 26/06/91 \$274,000	A WEINSTOCK 91-NE-199	\$124,000 30/09/91 \$14,000
STATISTICAL LEARNING THEORY AND ALGORITHMS Yale University	Moody John	N 36 26/06/91 \$798,751	SUDDARTH 91-NE-203	
OPTICALLY POWERED, OPTOELECTRONIC SPATIAL LIGHT MODULATORS Univ of Southern California	Forrest Stephen	N 36 12/04/91 \$485,813	W CRAIG 91-NE-131	
THE DYNAMIC LINK ARCHITECTURE, IMPLEMENTED AS SY . * OF COUPLED OSCILLATORS Univ of Southern California	Malsburg Christoph	N 36 30/05/91 \$393,285	SUDDARTH 91-NE-173	
PHOTOREFLECTANCE FOR THE IN-SITU STUDY AND CHARACTERIZATION OF SEMICONDUCTOR GROWTH/PROCESSING Brooklyn College of Cuny	Pollak Fred	N 36 16/04/91 \$431,424	POMRENKE 91-NE-134	
ATOMIC STRUCTURE, BONDING AND PROPERTIES OF CERAMICS American Ceramic Society	Holbrook W	N 12 06/05/91 \$8,395	A SCHIOLER 91-NE-146	\$8,395 01/09/91 \$8,395
EFFECTS OF MATRIX AND INTERFACE STRUCTURES ON THE MECHANICAL PROPERTIES OF CARBON/CARBON COMPOSITES Univ of California	Sneek J	N 36 08/04/91 \$526,365	O SCHIOLER 91-NE-126	

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ELEVATED-TEMPERATURE CYCLIC FATIGUE BEHAVIOR OF ADVANCED  
CERAMIC-MATRIX COMPOSITES  
Univ of California

INVESTIGATOR  
Ritchie Robert

MICROMECHANICS AND MORPHOLOGY OF CREEP DEFORMATION OF GRAPHITIZED  
CARBON FIBERS  
Univ of California

INVESTIGATOR  
Sines G

HIGH TC SUPERCONDUCTIVITY - PHYSICS AND DEVICES

Univ of California

Dynes Robert

OPTOELECTRONICS BASED ON SiGe/Si HETEROSTRUCTURES

Univ of California

Wang K

MATRIX AND INTERFACE DEFORMATION IN HIGH TEMPERATURE  
INTERMETALLIC COMPOUNDS AND COMPOSITES  
Univ of California, San Diego

Asaro Robert

SiGe/Si HETEROSTRUCTURES FOR IR AND OPTO-ELECTRONIC DEVICE  
APPLICATIONS

Hughes Research Laboratories

Croke Edward

NEW REAGENTS FOR CVD AND CVI OF CARBON CONTAINING BORON AND OTHER  
OXIDATION INHIBITORS

Georgia Tech Research Corporation

Lackey W

DISPERSED PHASE CERAMIC COMPOSITE COATING BY CVD

Georgia Tech Research Corporation

Lackey W

THE COMPLEXITY OF COMPUTATION, LEARNING, AND RELIABILITY IN NEURAL  
NETWORKS

Univ of North Texas

Pirbhary Ian

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N 36 23/04/91 \$617,759	D SCHIOLER 91-NE-141	
N 36 06/05/91 \$3,252,043	D SCHIOLER 91-NE-147	
N 36 26/06/91 \$675,000	A WEINSTOCK 91-NE-195	\$225,000 15/10/91 \$675,000
R 36 26/06/91 \$551,000	WITT 91-NE-201	
N 36 03/04/91 \$387,934	A ROSENSTEIN 91-NE-119	\$122,934 01/08/91 \$387,934
N 36 05/06/91 \$291,489	POMRENKE 91-NE-180	
N 36 22/04/91 \$521,840	A SCHIOLER 91-NE-140	\$133,200 01/10/91 \$414,888
N 36 29/04/91 \$521,736	D SCHIOLER 91-NE-143	
N 36 26/06/91 \$270,501	UDDARTH 91-NE-194	

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CHEMICAL AND MECHANICAL MANIPULATION OF PASSIVATION AND PASSIVATION LAYERS IN ULTRA-HIGH Purity POLYCRYSTALLINE SILICON North Carolina State University	Arnold	0	14/05/91 \$1,322,802	POMRENKE 91-NE-153	
OPTICAL GROWTH OF GALLIUM ARSENIDE AND GERMANIUM ON SILICON AND SILICON-ON-INSULATOR North Carolina State University	Kucichinski	36	16/05/91 \$397,172	POMRENKE 91-NE-158	
SCIENCE AND TECHNOLOGY OF ALTERNATING CYCLIC AC STRUCTURAL AREA POSITION OF METALS AND SEMICONDUCTORS North Carolina State University	Arnold	36	23/05/91 \$959,230	WITT 91-NE-171	
APL GROWTH AND CHARACTERIZATION OF SIGI FOR OPTOELECTRONIC APPLICATIONS Naval Research Laboratory	Phillips	36	12/06/91 \$106,000	POMRENKE 91-NE-187	\$33,000 01/09/91 \$106,000
ELECTRICALLY-ADDRESSABLE POLYMER-BASED SPATIAL LIGHT MODULATOR Inteon Systems Inc	Lin	36	23/05/91 \$399,395	CRAIG 91-NE-167	
NUMERICAL SIMULATION OF MOVCD IN MICROELECTRONICS MATERIALS PROCESSING Scientific Research Associates Inc	M	36	11/06/91 \$296,453	POMRENKE 91-NE-184	
QUANTUM DEVICES AND STRUCTURES Scientific Research Associates, Inc.	Harold	24	09/05/91 \$499,370	WITT 91-NE-150	
MATERIALS RESEARCH CENTER Rensselaer Polytechnic Institute	Robert	24	16/05/91 \$5,000,000	ROSENSTEIN 91-NE-162	
AN INVESTIGATION OF MOVCD - A NEW MATERIAL WITH H. G. RAPPAPORT STRUCTURE Pennsylvania State University	Peter	36	03/04/91 \$299,385	A SCHIOLER 91-NE-124	\$135,246 01/10/91 \$415,089

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MATERIAL RESEARCH CENTER		N 24 16/05/91 \$5,000,000	ROSENSTEIN 91-NE-163	
FORD A and M Research Foundation	Abraham			
QUANTUM MECHANICAL APPROACH TO UNDERSTANDING OF MICROSTRUCTURAL AND MECHANICAL PROPERTIES OF THERMOELECTRIC MATERIALS	Abraham	N 36 13/04/91 \$470,527	A ROSENSTEIN 91-NE-138	\$148,580 01/10/91 \$456,574
FAILORED INTERFACES FOR METAL-MATRIX COMPOSITES-SEMICONDUCTOR APPLICATIONS	Morris	P 12 29/04/91 \$133,125	A ROSENSTEIN 91-NE-142	\$133,125 01/10/91 \$133,125
MECHANICS AND MECHANISM OF CRACK GROWTH IN COMPOSITES	Shankar	N 36 09/04/91 \$294,360	D SCHIOLER 91-NE-123	
MATERIALS CENTER		N 24 16/05/91 \$5,000,000	ROSENSTEIN 91-NE-161	
Univ of Pittsburgh	Frederick			
STUDY OF CREEP CRACK NUCLEATION AND GROWTH IN CERAMICS AND CERAMIC MATRIX COMPOSITES	Picard	N 36 09/04/91 \$419,945	D SCHIOLER 91-NE-122	
Southwest Research Institute	Richard			
1985 MEETING ON MATERIALS FOR OPTICAL INFORMATION PROCESSING		N 12 12/04/91 \$5,000	D CRAIG 91-NE-130	
Materials Research Society	John			
THIN FILMS: STRESSES AND MECHANICAL PROPERTIES III		N 12 13/04/91 \$2,500	POMRENKE 91-NE-137	
Materials Research Society	John			
ADVANCED III-V COMPOUND SEMICONDUCTOR GROWTH, PROCESSING AND DEVICE		N 12 20/04/91 \$2,000	POMRENKE 91-NE-144	
Materials Research Society	John			

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TRANSFORMATION TIGHTENING OF CERAMICS Rockwell International, Science Center	David	R 36 03/05/91 \$593,970	A SCHIOLER 91-NE-149	\$135,518 15/01/92 \$599,970
MECHANISMS OF QUASI-BRITTLE FAILURE IN ALUMINA AND OTHER ILLIC COMPOUNDS Univ of Pennsylvania	David	N 26 11/06/91 \$451,913	ROSENSTEIN 91-NE-186	
EVOLUTION AND LEARNING IN NEURAL NETWORKS WITH FINITE WEIGHTS Univ of Pennsylvania	Santosh	N 36 26/06/91 \$127,786	SUODARTH 91-NE-202	
JAPAN-U.S. CONFERENCE ON COMPOSITE MATERIALS Virginia Polytechnic Inst., State Univ	K	N 12 12/04/91 \$5,000	A SCHIOLER 91-NE-129	\$5,000 01/09/91 \$5,000
HIGH SENSITIVITY GMS EPILAYERS BY OXYGEN COPING Carnegie-Mellon University	Mark	N 24 14/05/91 \$34,267	A POMRENKE 91-NE-156	\$18,309 15/08/91 \$34,267
DEVELOPMENT OF GERMANIUM-SILICON GROWTH TECHNOLOGY Carnegie-Mellon University	J	N 36 26/06/91 \$419,909	POMRENKE 91-NE-193	
THE USE OF SELECTIVE AREA GROWTH FOR THE REDUCTION OF THERMAL DEGRADATION DEFECTS IN 4 TERNARY Yarns Research Center	David	N 24 12/04/91 \$195,842	A MITT 91-NE-132	\$20,000 01/08/91 \$195,842
MOLECULE-ELECTRONICS State University of New York	Konstantin	N 36 13/06/91 \$950,000	A WEINSTOCK 91-NE-190	\$50,000 30/09/91 \$950,000
SUPPORT OF A POSTGRADUATE STUDENT FROM STONY BROOK AT ALL CONFERENCES State University of New York	Michael	N 24 26/06/91 \$40,000	WEINSTOCK 91-NE-196	

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FILE (CONT.) INSTITUTION	PROJECT TITLE	PI	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
1991 GORDON RESEARCH CONFERENCE IN CORROSION (HIGH TEMPERATURE OXIDATION) Gordon Research Conferences Inc	INVESTIGATION Cruickshank	Alexander	N 12 17/04/91 \$3,000	D SCHIOLER 91-NE-135	
TENSILE STUDY OF SINGLE-CRYSTAL TITANIUM LICO TRIALUMINIDE ALC601(C250M40) Martin Marietta Corporation	Kumar	K. Kumar	N 12 17/04/91 \$52,066	A ROSENSTEIN 91-NE-136	\$52,066 01/09/91 \$52,066
II-VI/III-V HETEROSTRUCTURES Gordon Research Foundation	Gordon	Gordon	N 36 30/05/91 \$223,000	POMRENKE 91-NE-176	
INVESTIGATIONS OF YBCO/CUO/6 MATRIALS WITH A AIR-ROOM-TEMPERATURE RESISTIVITY TRANSITIONS Wayne State University	Lowell	Lowell	N 36 09/04/91 \$223,465	A WEINSTOCK 91-NE-128	\$63,465 15/06/91 \$223,465
OPTICAL DATA STORAGE AND PROCESSING BY PHOTO -CHO Wayne State University	Kim	Myung	N 12 15/05/91 \$25,000	A CRAIG 91-NE-157	\$25,000 01/06/91 \$25,000
FOUR-WAVE MIXING IN INGaAs/AlAs MULTIPLE QUANTUM WELLS WITH APPLICATIONS TO OPTICAL SWITCHING DEVICES AND SOLITON GENERATION Wayne State University	Chao	Yan	N 03 20/05/91 \$25,000	A CRAIG 91-NE-165	\$25,000 01/06/91 \$25,000
STUDY OF PRIMITIVE MECHANISMS OF INITIAL GROWTH OF Si(CX)Si(CI-X) USING AN ACCURATE QUANTUM MECHANICAL TOTAL ENERGY CALCULATION Ohio State University	Kim	Furukawa	N 36 14/05/91 \$280,955	D MITT 91-NE-155	
CHARACTERIZATION OF RARE-EARTH DOPED III-V SEMICONDUCTORS Air Force Institute of Technology	Yao	Yao	N 12 30/05/91 \$13,737	A POMRENKE 91-NE-175	\$15,106 15/09/91 \$15,106
DEVELOPMENT OF A HIGH-RESOLUTION MAGNETIC LOGIC MEMORY OF LA OF DIAMET Wayne State University	Kim	Kim	N 12 15/04/91 \$248,370	A MITT 91-NE-133	\$0 01/08/91 \$248,870

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TITLE (CONT.) ABSTRACT	PIV CITATION	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
STUDY OF QUANTUM MECHANICAL EFFECTS IN FILM-PI-CO-INTERCOLLED SEMICONDUCTOR NANOSTRUCTURES Massachusetts Institute of Technology	Witt	N 36 05/06/91 \$675,400	A WITT 91-NE-181	\$175,000 01/11/91 \$560,000
DEVELOPMENT OF NEW NANOSTRUCTURED COMPOSITE MATERIALS Clarkson University	Witt	N 36 03/04/91 \$242,157	POMRENKE 91-NE-120	
LOW TEMPERATURE DEFORMATION PROCESSES & STRENGTHENING MECHANISMS IN SINGLE CRYSTALS OF NEAR- $\alpha$ TITANIUM-ALLOYED ALLOYS Stanford University	Witt	N 36 05/05/91 \$475,000	A ROSENSTEIN 91-NE-174	\$155,000 01/12/91 \$475,000
OPTICAL INTERCONNECT RESEARCH Stanford University	Witt	S 24 30/05/91 \$327,570	CRAIG 91-NE-177	
ADVANCED THIN-FILM DEPOSITION AND PHYSICAL PROPERTIES OF HIGH- TEMPERATURE AND OF A NOVEL SUPERCONDUCTING MATERIALS Stanford University	Witt	N 36 16/06/91 \$1,425,000	A WEINSTOCK 91-NE-189	\$500,000 01/10/91 \$1,425,000
METHODS OF MEASURING THE SURVIVABILITY OF SEMICONDUCTOR COMPONENTS Univ of Connecticut	Witt	N 36 23/05/91 \$198,446	POMRENKE 91-NE-168	
OSCILLATIONS AND NEURAL SYSTEMS California Institute of Technology	Witt	N 36 22/05/91 \$404,900	A SUDDARTH 91-NE-166	\$100,300 01/09/91 \$404,900
TEMPERATURE-RESOLVED STUDIES OF HIGH-TEMPERATURE OSCILLATIONS IN COMPOUNDS Arizona State University	Witt	N 36 26/06/91 \$463,872	WITT 91-NE-197	
TEMPERATURE-RESOLVED STUDIES OF HIGH-TEMPERATURE OSCILLATIONS IN COMPOUNDS Stanford University	Witt	N 36 23/06/91 \$237,900	WEINSTOCK 91-NE-200	



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CENTER FOR RESEARCH IN NEW MATERIALS Cornell University	William Joseph	N 24 16/05/91 \$5,000,000	ROSENSTEIN 91-NE-160	
SEVENTH INTERNATIONAL CONFERENCE ON PHONON SCATTERING IN CONDENSED MATTER Cornell University	John R	N 12 03/06/91 \$42,015	POMRENKE 91-NE-178	
IN-SITU ELECTRON AND OPTICAL SPECTROSCOPIES OF TRANSLATIONAL AND VIBRATIONAL ACTIVATION OF BOND BREAKING & FORMATION ON SEMICONDUCTORS Cornell University	Wilson W	N 36 26/06/91 \$450,000	POMRENKE 91-NE-198	

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THE 7TH INTERNATIONAL CONFERENCE ON PARTICIPATIONS IN AND OUT OF THE 2 PHASES - ADVANCED IN PARTICIPATIONS IN EACH PHASE Univ of Alabama	J. Patton	N 06 01/04/91 \$15,000	A CERVENY 91-NL-079	\$15,000 01/06/91 \$15,000
EVALUATION OF THE EFFECTS OF HYPERBARIC OXYGEN THERAPY ON THE HEAL ING POTENTIAL IN HUMAN SUBJECTS Thermo-Science, Inc	Slide John	N 06 04/04/91 \$5,500	A CERVENY 91-NL-083	\$6,500 01/04/91 \$6,500
HYPERBARIC OXYGEN THERAPY IN THE MANAGEMENT OF PARTIAL AN ORBITAL IN SUBJECTS WITH INJURIES Univ of Chicago	Lawrence	N 12 05/04/91 \$16,880	A CERVENY 91-NL-084	\$16,880 05/07/91 \$16,880
PHOTONIC AND EXPERIMENTAL STUDIES OF AUDITORY PROCESSING Univ of Maryland	Shinn	R 36 05/04/91 \$333,506	A HADDAD 91-NL-085	\$84,901 01/10/91 \$84,901
INTERMEDIATE LEVELS OF VISUAL PROCESSING Harvard College	Ken	N 36 11/04/91 \$628,367	A HADDAD 91-NL-090	\$201,037 01/10/91 \$628,368
EFFECT OF A SP-ECT-RELATED AUXILIARY OPTICAL SIGNAL ON SP-ECT PERC Univ of Virginia	George	N 36 23/04/91 \$301,760	A HADDAD 91-NL-092	\$201,037 01/10/91 \$628,368
PERFORMANCE AND DEPRESSION IN THE DENTATE GYRUS Univ of Texas	John	N 36 23/04/91 \$219,714	A HADDAD 91-NL-093	\$30,000 15/06/91 \$30,000
CUMULATIVE EFFECT OF REPEATED BIRTH ON NEURAL TOXICITY Univ of Alabama	James	R 06 25/04/91 \$30,000	A CERVENY 91-NL-095	\$30,000 15/06/91 \$30,000

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A NEW IN VIVO FLUORESCENCE MECHANISM ASSAY FOR ASSESSING AQUATIC TOXICITY Purdue University	ENVIRONMENTAL Snell Terry	N 36 03/06/91 \$301,314	CERVENY 91-NL-111	
STUDIES OF THE GLAVAGE OF HALOGENATED CMT CHOLBY CATECHOL 1,2-DI-OXYGENASES (HYMEN) Univ of Colorado	Copy Shelley	N 36 03/06/91 \$327,720	CERVENY 91-NL-112	
CUMULATIVE EFFECT OF REPEATED PERIL OF CORTICAL ISCHEMIA Univ of Alabama	Holmes, Jr James	R 24 03/06/91 \$252,032	CERVENY 91-NL-113	
ADAPTING THE DYNAMICS OF MENTAL WORKLOAD AND PILOT PERFORMANCE IN ADVANCED AIRCRAFT Research Technology, Inc.	House William	N 06 09/04/91 \$50,000	HADDAD 91-NL-087	\$50,000 08/04/91 \$50,000
SYNAPTIC PLASTICITY: NEURAL AND MOLECULAR APPROACHES Univ of Southern California	Ludry Michel	N 12 17/06/91 \$10,000	HADDAD 91-NL-120	
VISUAL PROCESSING OF SUBJECT VELOCITY AND ACCELERATION Smith-Kettlewell Eye Research Foundation	McKee Suzanne	R 26 23/04/91 \$550,385	HADDAD 91-NL-091	
MULTIDIMENSIONAL INFORMATION COMBINATION IN VISUAL PERCEPTION Univ of California	Wickens Thomas	N 26 09/04/91 \$411,195	HADDAD 91-NL-086	
TOXIC METAL METABOLISM AND RESISTANCE MECHANISMS IN THE SOIL BACTERIUM, BACILLUS SUBTILIS Univ of California	Leighton Terrence	N 36 03/06/91 \$423,807	CERVENY 91-NL-110	
GROUND REACTION AND CONNECTIVE TISSUE METABOLISM - THE ROLE OF HYPOXIC ANOXIC TISSUE Univ of California San Diego	Adams Elvin	N 12 03/04/91 \$14,528	HADDAD 91-NL-081	\$14,528 01/07/91 \$14,528

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MECHANISMS OF CYANIDE ACCUMULATION IN P. DUCHENNE'S MUSCLES	Conrad	91-NL-108	CERVENY	
Modeling and Analysis of the Transduction Processes in the Semicircular Canals	Malone	91-NL-121	TANGNEY	
Neurological and Electroencephalographic Studies in the Semicircular Canals	Malone	91-NL-121	TANGNEY	
Molecular Approach to Hypothalamic Rhythms	Malone	91-NL-104	HADDAD	
Parallel Processing and Learning: Variability and Chaos in Self-Organization of Activity in Groups of Neurons	Malone	91-NL-098	HADDAD	
Neurological Action in the Circadian Rhythm in Self-Organization	Malone	91-NL-119	HADDAD	
Self-Training Computer System for Improved Vision Performance	Malone	91-NL-097	HADDAD	
Study of the Effect of Hypothalamic Oxygen on Crust Inhibitory in the CA	Malone	91-NL-082	CERVENY	
1991 International Annual Meeting of the Society for the Study of the History of the International Physiology	Malone	91-NL-100	CERVENY	
Neurological and Electroencephalographic Studies in the Semicircular Canals	Malone	91-NL-096	HADDAD	

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THE EFFECT OF HYPERBARIC OXYGENATION UPON 2,5-DI-RATINGS MUSCLE

N 12  
02/04/91  
\$30,938

CERVENY  
91-NL-080

Louisiana State University

Arnold

EFFECTS OF RADIATION ON VARIOUS CULTURED MAMMALIAN CELL LINES

N 36  
03/06/91  
\$375

D  
CERVENY  
91-NL-109

University of Wisconsin

Carolyn

SIGNAL AND LIGAND-INDUCED FACTORS IN COMPLEX MODULAR PATTERN PRO-  
TEIN

N 30  
06/05/91  
\$343,203

A  
HADDAD  
91-NL-099

State University of New York

Arthur

SPATIAL COGNITION AND MENTAL MODELS FOR SURROUNDING SPACE

N 36  
05/05/91  
\$243,051

HADDAD  
91-NL-101

State University of New York

Nancy

PATHWAYS OF ACTIVATION AND THE PRODUCTS OF HYDROLYSIS OF FUEL OXID-  
IZATION

N 36  
01/05/91  
\$336,538

CERVENY  
91-NL-106

Univ of North Carolina

AVR. M

VISUAL ENCODING OF SPATIAL RELATIONS

N 36  
13/06/91  
\$398,232

HADDAD  
91-NL-117

Univ of North Carolina

Christina

SEASON RESEARCH CONFERENCE ON BARRIER FUNCTION OF MAMMALIAN SKIN

N 12  
01/04/91  
\$10,000

A  
CERVENY  
91-NL-078

London Research Conference Inc

Russell

MECHANISM OF LETHAL INTERACTION OF HAZARDOUS CHEMICALS AT SUBTOXIC  
DOSES

N 36  
04/06/91  
\$552,374

CERVENY  
91-NL-116

Univ of Massachusetts Medical Center

Marjorie

STRUCTURAL FACTORS IN DNA REPAIR

N 36  
04/06/91  
\$453,000

CERVENY  
91-NL-114

University of Wisconsin

Donna

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THE KEY INVOLVEMENT OF POLYMER-NOVELLATION IN DEPTHS AGAINST  
POLYMER-NOVELLATION STUDY  
Southern University

KEY WORDS

Smulson

A CONSTRAINT LEARNING NEURAL NETWORK MODEL OF STEREOSCOPIC DISCREPANCY  
THE PSYCHOLOGICAL AND NEUROPHYSIOLOGICAL RESULTS  
Southern University

Keywords

KEY WORDS AND VISUAL INFORMATION PROCESSING

Keywords - The State University

Kosler

NEURAL DRIVE, AND COUPLED SIGNALS OF THE BIOLOGICAL CLOCK

Keywords

Silver

A BASIC STUDY OF MICROBIAL RESISTANCE TO THE TOXIC EFFECTS OF CHLORINE  
KEY WORDS  
University

Keywords

MEASUREMENT AND REGULATION OF CENTRAL NEUROCHEMICAL RECEPTORS

New York University Medical Center

Stone

FORWARD A NEUROBIOLOGICAL THEORY OF VISUAL ATTENTION

University of Tennessee

Koch

INTELLIGENCE AND REPORT

University

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
R 36 04/06/91 \$317,184	CERVENY 91-NL-115	
N 24 24/04/91 \$235,624	HADDAD 91-NL-094	
R 36 11/04/91 \$631,968	A HADDAD 91-NL-089	\$150,000 30/09/91 \$395,000
N 36 11/05/91 \$247,522	HADDAD 91-NL-105	
N 24 11/05/91 \$196,348	CERVENY 91-NL-107	
R 60 12/06/91 \$1,013,354	HADDAD 91-NL-118	
N 36 30/05/91 \$333,690	HADDAD 91-NL-102	
N 36 30/05/91 \$370,799	HADDAD 91-NL-103	

REPORT DATE 07/11/91

PROJECT STATUS: P  
ALL PROJECTS ARE IN OFFICE STATUS  
OF OFFICE OF DATA ANALYSIS & INFORMATION SERVICES

PAGE 1

TITLE  
FUEL (CONT.)  
SUBSTITUTION

ANALYTICAL INVESTIGATIONS IN CHEMICAL DYNAMICS

Inv of Maryland

James

HYPERSONIC FLUID DYNAMICS

Inv of Arizona

Livingston

FOR INVERSE SCATTERING ANALYSIS FOR ACQUISITION AND ELECTROMAGNETIC

NAVES

Inv of California

Colson

RECONSTRUCTION OF IMAGES FROM SCATTERING AND SAR DATA  
ESTIMATION USING ADAPTIVE NONLINEAR ANALYSES

Inv of California

Stallard

INFRA RED SIGNAL PROCESSING

Inv of Minnesota

Stallard

COMING MICROCOMPUTER-BASED VIBRO. ROUTING AND SCHEDULING

Micrologics Inc

Johnson

ADVANCES IN ROCKET CONTROL

Moneywell Inc

Johnson

FOR FORMULATION & APPLICATION OF TAU STABLE FINITE ELEMENTS  
STRUCTURAL SCHEDULING PROBLEM

Inv of Texas

Johnson

FOR HIGH SPEED CONTROL SYSTEM FOR POLYMERIZATION

Inv of Minnesota

Johnson

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
Y 24 01/04/91 \$42,393	NACHMAN 91-NM-203	
Y 36 01/04/91 \$333,417	A NACHMAN 91-NM-208	\$122,491 01/10/91 \$333,417
Y 36 01/04/91 \$316,442	NACHMAN 91-NM-218	
N 26 01/04/91 \$213,098	A NACHMAN 91-NM-221	\$9,955 01/09/91 \$513,688
N 12 01/04/91 \$35,000	SJOGREN 91-NM-223	
Y 24 06/05/91 \$580,000	A GLASSMAN 91-NM-232	\$255,000 15/09/91 \$255,000
N 36 06/05/91 \$295,596	A JACOBS 91-NM-234	\$98,532 01/10/91 \$295,596
Y 24 01/05/91 \$160,240	GLASSMAN 91-NM-236	
N 36 01/05/91 \$130,458	JACOBS 91-NM-238	

INSTITUTION	TITLE	PIV	STATUS	INITIALS
INSTITUTION	TITLE	PIV	STATUS	INITIALS
UNIVERSITY OF VIRGINIA	ROBUST CONTROL SYSTEM DESIGN	J.	A JACOBS 91-NM-235	\$94,699 01/10/91 \$288,793
UNIVERSITY OF MICHIGAN	PRODUCTIVE DATABASE AND KNOWLEDGE SYSTEMS	Jack	A WAKSMAN 91-NM-242	\$132,485 30/09/91 \$426,999
UNIVERSITY OF MICHIGAN	PICT OPERATOR MATRIX (SOM) FORMALISM AND ITS APPLICATION TO CHEMICAL/PHYSICAL SYSTEMS	Richard	NACHMAN 91-NM-256	
UNIVERSITY OF MICHIGAN	STUDIES IN LARGE SCALE COMPLEX ADAPTATION PROBLEMS	Andy	GLASSMAN 91-NM-262	
UNIVERSITY OF MICHIGAN	NUMERICAL METHODS FOR THE CONTROL OF LARGE COMPLEX NON-LINEAR MANUFACTURING SYSTEMS	Harpal	A JACOBS 91-NM-264	\$0 01/09/91 \$422,891
UNIVERSITY OF VIRGINIA	ROBUST STABILIZATION AND TRACKING OF PIECEWISE LINEAR SYSTEMS	Z.	JACOBS 91-NM-273	
UNIVERSITY OF VIRGINIA	SUBMICRON LAYER BREAKDOWN IN COMPRESSIBLE FLOW	J. C. A.	A NACHMAN 91-NM-277	\$61,440 01/10/91 \$193,690
UNIVERSITY OF VIRGINIA	APPROXIMATIVE COMPUTATIONAL FLUIDITY	Jeffrey	GLASSMAN 91-NM-235	
UNIVERSITY OF VIRGINIA	NEW GENERATION SOLID MODELS FOR ELECTRONIC PROPERTIES	Jeffrey	GLASSMAN 91-NM-272	



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PROPOSAL STATUS ON 01 APR 91 - 30 JUN 91  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DISCRETE OF MATHEMATICAL & INFORMATION SCIENCES

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TITLE (TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
NONLINEAR MECHANICS AND APPLICATION ANALYSIS Univ of Maryland	Madhavi	N 36 23/06/91 \$314,798	NACHMAN 91-NM-296	
INVESTIGATIONS IN LINEAR AND INT OR PROGRAMMING Purdue University	Dixey	N 12 28/06/91 \$52,455	A GLASSMAN 91-NM-300	\$52,455 01/10/91 \$52,455
EFFICIENT ALGORITHMS AND DATA STRUCTURES IN ELECTRIC DESIGN Purdue University	Chanderjit	P 36 23/06/91 \$375,458	GLASSMAN 91-NM-302	
CONTINUUM LIMITS OF DISCRETE PARTICLE SYSTEMS Univ of Maryland, Baltimore Campus	Greener	N 16 17/05/91 \$33,000	A NACHMAN 91-NM-244	\$33,000 01/09/91 \$33,000
HIERARCHICAL MODELING AND LOCKING EFFECTS IN THE NUMERICAL ANALYSIS OF MULTISTRUCTURES Univ of Maryland, Baltimore Campus	Guri	N 36 23/06/91 \$225,758	NACHMAN 91-NM-301	
FAST MULTIPOLAR METHODS FOR SCATTERING COMPUTATION East Algorithms & Hardware Corporation	Colfman	N 48 06/06/91 \$533,360	A NACHMAN 91-NM-265	\$133,360 01/09/91 \$533,360
SUPVIVAL NOT THROUGH Northern Illinois University	Chenier	N 24 28/06/91 \$81,755	SJOGREN 91-NM-299	
RESEARCH IN MIXED-INTEGER PROGRAMMING Georgia Institute of Tech	Nannan	N 12 16/04/91 \$50,000	A GLASSMAN 91-NM-219	\$50,000 01/06/91 \$50,000
WORLD CONGRESS OF NONLINEAR ANALYSIS Florida Institute of Technology	Lakshminathan V.	N 12 28/06/91 \$68,310	NACHMAN 91-NM-297	

POST DATE 07/16/91

PROPOSAL DATES: FROM 01 APR 91 TO 30 JUN 91  
 AT: COMSEC BRANCH, SCIENTIFIC & TECHNICAL  
 INFORMATION SYSTEMS

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TITLE (CONT.) INSTITUTION	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
DYNAMIC COMMUNICATION JAMMING/INTERCEPT JAMES Univ of Southern Cal -- Dept of Elec Eng	N 24 20/06/91 \$617,242	SJOGREN 91-NM-288	
INTERNATIONAL CONFERENCE ON RANDOM MAPPING, PARTITION, AND COMPUTATIONS Univ of Southern California	N 40 09/05/91 \$40,020	GLASSMAN 91-NM-237	
ADJUST CONTROL METHODS Univ of Southern California	N 36 24/05/91 \$382,324	JACOBSON 91-NM-253	
EMPIRICAL ALGORITHMS FOR STRUCTURED STABILITY ANALYSIS COMPUTATION Univ of Southern California	N 36 06/06/91 \$254,930	JACOBSON 91-NM-266	
PROBABILITY MODELS AND STATISTICAL INFERENCE FOR RELIABILITY ASSESSMENT Univ of Southern California	N 36 20/06/91 \$189,281	SJOGREN 91-NM-287	
EMORY AND APPLICATION OF RANDOM FIELDS Technion--Israel Institute of Technology	N 36 06/05/91 \$350,150	SJOGREN 91-NM-230	
PARALLEL DIVIDE-AND-CONQUER APPROACH FOR THE SOLUTION OF EIGENPROBLEMS Air Force National Laboratory	N 36 22/05/91 \$785,315	NACHMAN 91-NM-228	
RELIABILITY ASSESSMENT FOR SYSTEMS SUBJECT TO MAINTENANCE & REPAIR City College - CUNY	N 24 17/05/91 \$95,031	SJOGREN 91-NM-245	
HIGH PERFORMANCE COMPUTING Defense Advanced Research Project Agency	N 12 22/04/91 \$150,000	A HOLLAND 91-NM-222	\$150,000 20/04/91 \$150,000

REPORT DATE: 07/15/91

PERIOD: 01 OCT 90 - 01 APR 91 - 30 JUN 91  
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 DEPARTMENT OF MATHEMATICAL & INFORMATION SCIENCES

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TITLE FILE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
A NEW TOOL FOR SIGNAL PROCESSING				
City Univ of New York Graduate School	Louis	N 36 16/05/91 \$360,198	SJOGREN 91-NM-243	
NON-LINEAR TIME INVARIANT COMPENSATION OF FEEDBACK SYSTEMS				
Univ of California	Isaac	N 12 05/04/91 \$211,261	JACOBS 91-NM-211	
STABILITY, BIFURCATION, AND CONTROL OF HAMILTONIAN SYSTEMS				
Univ of California	Jarrod	N 24 07/06/91 \$1,474,355	NACHMAN 91-NM-271	
NONLINEAR SYSTEM DESIGN: ADAPTIVE FEEDBACK LINEARIZATION WITH UNMODELLED DYNAMICS				
Univ of California	Peter	N 12 13/06/91 \$81,650	A JACOBS 91-NM-276	\$81,650 01/10/91 \$81,650
MATHEMATICAL PROBLEMS IN IMAGING, STATISTICAL MECHANICS AND RELATED TOPICS				
Univ of California	F. Garofalo	N 36 14/06/91 \$869,289	NACHMAN 91-NM-281	
STOCHASTIC DYNAMIC OPTIMIZATION: SOLUTION PROCEDURES				
Univ of California	Roger	R 24 20/06/91 \$139,755	GLASSMAN 91-NM-284	
CONTROL INTERACTIVE DISTRIBUTED LOGISTICS MANAGEMENT				
Computer Aided Plan & Schedule, Inc.	William	N 02 06/05/91 \$499,516	O GLASSMAN 91-NM-231	
NUMERICAL METHODS FOR CONTROL OF HEREDITARY SYSTEMS				
North Carolina State University	Hien	N 24 23/06/91 \$78,273	JACOBS 91-NM-238	
GOV-RT COMMUNICATIONS SYSTEM EMPLOYING FAULT TOLERANT Atlantic Aerospace Electronics, Corp.	Rich	N 25 13/06/91 \$3,287,563	A NACHMAN 91-NM-275	\$490,000 01/10/91 \$2,397,211

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PROPOSAL STATUS: POST C 1 NR 11 - 36 JAN 91  
 AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
 DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

PAGE 6

TITLE (TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
SYNTHESIS OF ROBUST CONTROLLERS UNDER PERTURBATIONS OF MIXED TYPE Texas A and M Research Foundation	S	N 36 23/05/91 \$358,045	JACOBS 91-NM-257	
DYNAMICS OF MECHANICAL/STRUCTURAL SYSTEMS WITH STIRRED LOCAL NONLINEARITIES Texas A and M Research Foundation	S	N 36 07/06/91 \$368,115	NACHMAN 91-NM-270	
LEARNING IN AN INTERNATIONAL SYSTEM Northwestern University	Loerence	N 36 01/04/91 \$259,000	A WAKSMAN 91-NM-205	\$80,383 01/08/91 \$80,383
RAISON TRANSFORM AND WAVELITS George Mason University	Corliss	N 31 05/04/91 \$151,161	SJOGREN 91-NM-210	
STABILITY OF DYNAMICAL SYSTEMS IN THE PRESENCE OF NOISE Northwestern University	Mark	N 12 20/05/91 \$15,000	A SJOGREN 91-NM-249	\$15,000 01/07/91 \$15,000
EXPERIMENTAL ENHANCEMENTS TO LONG-DISTANCE NETWORKS Purdue State University	Krichnamoorthy	N 24 06/06/91 \$142,488	WAKSMAN 91-NM-267	
FAULT-TOLERANCE AND PERFORMANCE IN REAL-TIME SYSTEMS Univ of Massachusetts	C. Mani	N 24 21/06/91 \$339,633	HOLLAND 91-NM-294	
HIGH-SPEED PARALLEL INTERCONNECTION SYSTEMS: DISTRIBUTED CONTROL AND ANALYSIS Univ of Massachusetts	Imrich	N 36 27/06/91 \$443,751	HOLLAND 91-NM-295	
THEORY AND APPLICATION OF RANDOM FIELDS Technion Res & Development Foundation	Robert	N 36 01/04/91 \$350,150	SJOGREN 91-NM-209	

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DIRECTORATE OF INFORMATION SCIENCES

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TITLE (CONT.) SUBSTITUTION	INITIATE START DATE TOT AMT	STATUS PROGRAM MANAGER PROPOSAL #	TYPE/MONTHS RECEIVED AMOUNT	INITIATE START DATE TOT AMT
NONLINEAR STABILITY OF UNSTABLE VISCOUS FLOW		NACHMAN 91-NM-215	N 36 15/04/91 \$152,899	
Cornell State Univ of Science and Tech				
A FAST MULTILEVEL INTEGRAL-EQUATION SOLVER FOR LARGE SCALE ELECTROMAGNETIC COMPUTATIONS		NACHMAN 91-NM-290	N 24 20/06/91 \$349,060	
Lockwood International Science Center				
TRANSPARENT HARDWARE DATA COMPRESSION FOR UNIX		HOLLAND 91-NM-282	N 06 17/06/91 \$99,843	
Intellectual Applications, Inc.				
THEORETICAL AND COMPUTATIONAL ADVANCES FOR ENTROPY PRINCIPLES		GLASSMAN 91-NM-217	N 36 15/04/91 \$225,000	
FOR LINEAR PROGRAMMING				
Princeton University				
APPLICATION OF CONTROL THEORY IN AERODYNAMICS		JACOBS 91-NM-260	N 37 30/05/91 \$456,461	\$150,416 01/09/91 \$456,461
Princeton University				
ROBUST OPTIMIZATION OF LARGE-SCALE SYSTEMS: AN EMERGING NEW TECHNOLOGY		GLASSMAN 91-NM-283	N 19/06/91 \$394,252	\$125,000 01/10/91 \$394,252
Princeton University				
MULTIVARIATE PROBLEMS OF STATISTICS, COMBINATORICS, RELIABILITY, AND SIGNAL PROCESSING		SJOGREN 91-NM-278	R 12 13/06/91 \$29,380	
Colorado State University				
LEARNING ABOUT OBJECT RECOGNITION AND REASONING UNDER UNCERTAINTY		WAKSMAN 91-NM-204	R 36 01/04/91 \$481,024	
Univ of Pennsylvania				
ANALYTICAL, COMPUTATIONAL AND EXPERIMENTAL STUDIES OF BISTABLE UFG PARAMETERS AND NONLINEAR CONTROL SYSTEMS		JACOBS 91-NM-252	N 36 24/05/91 \$371,413	
Virginia Polytechnic Institute and State Univ				

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FILE (CONT.) INSTITUTION	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
APPROXIMATIONS AND SUBOPTIMIZATION OF COMPOSITE LAMINATE DESIGN Virginia Polytechnic Inst & State Univ	N 36 07/06/91 \$307,415	GLASSMAN 91-NM-272	
THE ACQUISITION AND UTILIZATION OF SPATIAL AND FUNCTIONAL KNOWLEDGE FOR IMAGERY ANALYSIS Carnegie-Mellon University	R 36 01/04/91 \$699,401	WAKSMAN 91-NM-207	
THE ACQUISITION AND UTILIZATION OF SPATIAL AND FUNCTIONAL KNOWLEDGE FOR IMAGERY ANALYSIS Carnegie-Mellon University	R 36 15/04/91 \$699,401	WAKSMAN 91-NM-214	
MULTIPROCESSING SYSTEMS: RELIABILITY MODELLING AND ANALYSIS USING MULTIMODE COMPONENTS AND COMPONENT FAILURES Louisiana State University	R 12 29/05/91 \$67,163	SJOGREN 91-NM-255	
COMPUTATIONAL METHODS FOR FLUID DYNAMICS AND MICROSTRUCTURE Carnegie-Mellon University	R 36 29/05/91 \$402,121	NACHMAN 91-NM-258	
THE ACQUISITION AND UTILIZATION OF SPATIAL AND FUNCTIONAL KNOWLEDGE FOR IMAGERY ANALYSIS Carnegie-Mellon University	R 03 30/05/91 \$60,000	A WAKSMAN 91-NM-263	\$60,000 01/09/91 \$60,000
COMPLEX PHASE SPACE AND TARGET MOTION ESTIMATION AND COMPENSATION BY CAR/ISSAR IMAGING State University of New York	N 26 17/05/91 \$202,959	SJOGREN 91-NM-246	
ON METHODS FOR DESIGNING COMMUNICATION NETWORKS State University of New York - Stony Brook	N 36 17/05/91 \$206,632	GLASSMAN 91-NM-248	
STATISTICS OF LOW FREQUENCY SIGNALS: ESTIMATION OF VARIANCE AND OF SAMPLING DISTRIBUTION VIA A SUBOPTIMAL PICO SAMPLING TECHNIQUE Durham Research Foundation	N 24 24/05/91 \$47,072	SJOGREN 91-NM-251	

07/13/11

PROPOSAL STAFF REPORT (1 APR 61 - 30 JUN 61)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF MATHEMATICAL & INFORMATION SCIENCES

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INSTITUTION  
FIFTH PURDUE INTERNATIONAL SYMPOSIUM OF STATISTICAL DECISION  
THEORY  
Purdue Research Foundation  
INVESTIGATOR  
HOST

COPIES TO: DISTRICT COURT

THEORETICAL ASPECTS OF REASONING ABOUT KNOWLEDGE  
 TIM ALLEN and Kenneth G. Kemp

PHASOR SPACE ANALYSIS OF "DUALITY" MULTILOGY PROBLEMS: A  
TRANSFORM APPROACH  
David Western, Western University, London, Ontario

51000 GEXIA MHI  
MULTI-PURPOSE COINTEGRATION SYSTEM

ADAPTIVE ESTIMATION AND APPROXIMATION OF CONTINUOUSLY VARYING  
SPECTRAL DENSITY FUNCTIONS TO ARBITRARY DATA?  
Alexis Tech University  
1980

RESEARCH AND DEVELOPMENT OF THE POLYESTER OF THE FINITE LENGTH  
 OF THE  
 Washington University

LEXICAL TASK SPECIFIC ARCHITECTURES WITH CAUSAL AND VISUAL REASONING

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TYPE/MONTHS	STATUS	PROGRAM MANAGER	INITIATE
RECEIVED	PROPOSAL #	START DATE	TOT AMT
AMOUNT			
N 12	SJOGREN		
07/06/91	91-NM-269		
\$3,000			
N 24	HOLLAND		
12/06/91	91-NM-274		
\$335,409			
N 06	WAKSMAN		
14/06/91	91-NM-230		
\$20,000			
N 36	JACOBS		
20/05/91	91-NM-250		
\$234,129			
N 12	GLASSMAN		
07/06/91	91-NM-268		
\$59,220			
N 24	SJOGREN		
13/04/91	91-NM-216		
\$113,871			
N 36	NACHMAN		
02/05/91	91-NM-227		
\$235,192			
N 36	WAKSMAN		
30/05/91	91-NM-261		
\$434,220			
N 24	JACOBS		
22/05/91	91-NM-225		
\$104,877			

REPORT DATE 07/1/91

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JOINT STAFF OF MATHEMATICAL & INFORMATION SCIENCES

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TITLE FILE (CONT.) INSTITUTION	UNIVERSITY	PI	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
SOLVING MANUFACTURING PROBLEMS USING SOFTWARE FOR LARGE-SCALE NONLINEAR PROGRAMMING IBM Thomas J. Watson Research Center	Conn	Andrew	N 36 06/05/91 \$922,480	A GLASSMAN 91-NM-229	\$9,998 01/09/91 \$922,480
CHARACTERISTIC-VALUE MODELLING OF CURVED-SURFACE SOLIDS Integers - The State University	Freeman	Herbert	N 36 16/05/91 \$221,757	WAKSMAN 91-NM-241	
ACOUSTIC OF ENERGY MINIMIZING SURFACES Integers - The State University	Taylor	Jean	N 36 29/05/91 \$382,005	NACHMAN 91-NM-259	
MULTI-RESOLUTION SIGNAL SYSTEM ANALYSIS AND CONTROL OF DISCRETE-TIME DYNAMICS SYSTEMS Massachusetts Institute of Technology	Willsky	Alan	N 36 15/04/91 \$400,409	A JACOBS 91-NM-212	\$125,000 01/10/91 \$395,409
MATHEMATICAL MODELS: NONLINEAR WAVE PHENOMENA IN HYDRODYNAMICS Massachusetts Institute of Technology	Tenny	David	N 12 18/04/91 \$28,500	A NACHMAN 91-NM-220	\$28,500 01/07/91 \$28,500
DISTRIBUTED SYSTEMS: STOCHASTIC METHODS OPTIMIZATION AND APPLICATIONS IN COMMAND AND CONTROL Massachusetts Institute of Technology	Vertman	Glenn	N 36 06/05/91 \$300,724	JACOBS 91-NM-233	
ANALYSIS OF OPTIMIZATION THEORY AND APPLICATIONS Society for Industrial & Applied Math	Block	W. Murray	N 12 02/05/91 \$10,000	A GLASSMAN 91-NM-235	\$10,000 01/09/91 \$10,000
FOUNDATIONS OF TECHNOLOGY FOR CONSTRUCTING HIGHLY RELIABLE DISTRIBUTED REALTIME SYSTEMS Stanford University	Lockman	David	N 33 01/04/91 \$403,402	A HOLLAND 91-NM-206	\$140,654 01/09/91 \$409,402
APPLIED NUMERICAL METHODS WITH OPTIMIZATION Clarkson University	Brough	Byron	N 33 15/04/91 \$177,619	NACHMAN 91-NM-213	





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CORPORATE OF MATHEMATICAL & INFORMATION SCIENCES

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TITLE  
(CONT.)  
SUBSTITUTION

COMPUTER AIDED SURFACE ANALYSIS  
Arizona State University

INVESTIGATOR

Donnell

Robert

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
N 12 24/03/91 \$75,000	A HOLLAND 91-NM-254	\$75,000 01/07/91 \$75,000

REPORT DATE 07/15/91

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 FOR STUDIES OF PHYSICAL AND BIOLOGICAL SCIENCES

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TITLE (FILE CONT.) SUBSTITUTION	PIVOT POINT	STATUS PROGRAM MANAGER PROPOSAL #	INITIAL START DATE TOT AMT
PLASMA MICROWAVE ELECTRONICS- STUDIES OF HIGH POWER PLASMA WAGED BACKWARD WAVE OSCILLATORS Univ of Maryland	Victor	36 12/04/91 \$644,016 BARKER 91-NP-100	
OPTICAL FREQUENCY STANDARDS- METEOROLOGICAL WORKING STANDARDS AND FURTHER ABSOLUTE FREQUENCY ADJUSTMENT Univ of Colorado	Victor	24 12/04/91 \$330,000 KELLEY 91-NP-102	\$165,000 01/08/91 \$330,000
STUDIES OF MECHANISMS OF SHORT WAVELENGTH RADIATION WITH STRONG-FIELD INTERACTIONS Univ of Illinois	Chen	36 17/04/91 \$765,000 SCHLOSSER 91-NP-105	
COLLISION AND MOTIONAL WIGGING EFFECTS IN CRYSTALLINE ATOMIC HYDROGEN MASERS University of Illinois	Sturges	24 13/04/91 \$166,000 KELLEY 91-NP-106	\$83,000 01/08/91 \$166,000
CHROMOSPHERIC ACTIVITY IN SOLAR FLARES Univ of Virginia	Richards	36 20/04/91 \$181,860 RADOSKI 91-NP-108	\$58,542 01/10/91 \$181,860
STUDY OF A PREPAREDABLE ORBITAL IN THE MILLIMETER TO SUBMILLIMETER WAVE RANGE Univ of Tennessee	Leor	36 02/05/91 \$582,399 BARKER 91-NP-110	
PLASMA FIELD-EMISSION VACUUM TUBES- COLLECTORIC DEVICES FOR MICRO- WAVE AND MILLIMETER-WAVE APPLICATIONS Univ of Texas	David	36 02/05/91 \$500,026 BARKER 91-NP-111	
PERFORMANCE OF COHERENT SYNCHROTRON RADIATION USING CYCLOTRON ANTENNA-ANTENNA ACCELERATION Univ of Texas	Jay	36 02/05/91 \$1,399,360 BARKER 91-NP-116	
IONIC BEHAVIOR OF VACUUM MICROELECTRONIC DEVICES Univ of Texas	Duncan	36 02/05/91 \$332,152 BARKER 91-NP-123	

REPORT DATE 07/15/91

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AIR FORCE OFFICE OF SCIENTIFIC AND TECHNICAL  
OPERATIONS OF PHYSICAL AND GEOGRAPHICAL SCIENCES

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TITLE  
FILL (CONT.)  
INSTITUTION

COUPLING AMONG ION INSTABILITY MECHANISMS TO THE IONOSPHERIC PLASMA-  
SHEATH INTERFACES IN A STURGEON  
UNIV of Illinois

WIGWAG CYCLOTRON-WAVE AT THE CYCLOTRON-IONOSPHERIC AND IONOSPHERIC  
UNIV of Michigan

HARMONIC FREE ELECTRON LASER STUDIES AT MILLER HILL LAB.  
FACILITIES  
UNIV of Maryland

HARMONIC WIGWAG AMPLIFIERS AND PULSE LOCKED OSCILLATORS  
UNIV of Maryland

THE IRRADIATION WIGWAG  
UNIV of Tennessee

LOW VOLTAGE, RECTANGULAR MILLER HILL-LAB. CYCLOTRON AMPLIFIERS  
UNIV of Wisconsin

AUTOMATED SOUVENIR ACCELERATED (SAS) IONOSPHERIC WIGWAG-100 SOURCE IN  
THE 100 MHz-200 MHz RANGE  
UNIV of Utah

WIGWAG-100, WIGWAG-100 MILLER HILL-LAB. AMPLIFIER-100 SOURCE  
UNIV of Utah

DEVELOPMENT OF A MILLER HILL-LAB. CYCLOTRON WIGWAG-100  
SOURCE-100 IONOSPHERIC WIGWAG-100  
UNIV of Utah

TYPE/MONTHS  
RECEIVED  
AMOUNT

N 36  
02/05/91  
\$213,013

N 36  
02/05/91  
\$302,153

N 36  
02/05/91  
\$465,252

N 36  
02/05/91  
\$540,333

N 36  
02/05/91  
\$585,566

N 36  
02/05/91  
\$503,150

N 36  
02/05/91  
\$529,727

N 36  
02/05/91  
\$500,000

N 36  
02/05/91  
\$500,000

STATUS  
PROGRAM MANAGER  
PROPOSAL #

D  
BARKER  
91-NP-126

D  
BARKER  
91-NP-130

D  
BARKER  
91-NP-131

A  
BARKER  
91-NP-132

D  
BARKER  
91-NP-136

A  
BARKER  
91-NP-141

D  
BARKER  
91-NP-143

D  
BARKER  
91-NP-144

D  
BARKER  
91-NP-149

TITLE  
FILL (CONT.)  
INSTITUTION

PHYSICS  
FACILITIES  
UNIV of Illinois

CONSTRUCTION  
FACILITIES  
UNIV of Michigan

CONSTRUCTION  
FACILITIES  
UNIV of Maryland

CONSTRUCTION  
FACILITIES  
UNIV of Tennessee

CONSTRUCTION  
FACILITIES  
UNIV of Wisconsin

CONSTRUCTION  
FACILITIES  
UNIV of Utah

CONSTRUCTION  
FACILITIES  
UNIV of Utah

CONSTRUCTION  
FACILITIES  
UNIV of Utah

CONSTRUCTION  
FACILITIES  
UNIV of Utah



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FILE TITLE (CONT.) INSTITUTION	RESEARCH IN SCIENCE: PROJECT MICROSCOPY	UNIV of Arizona	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
POTENTIAL-CELL CONDUCTED, FLUENCY EFFECTS ELECTRON-Beam-INDUCED MILLIMETER WAV. SOURCE: APPLIED RADIATION American Research Corp of Arizona	CONDUCTED	ARMED	26/06/91 \$450,000	SCHLOSSER 91-NP-132	
EFFECT OF WORK FUNCTION ON EMISSION FROM LOW VOLTAGE FIELD EMISSION Research Institute of Tech	ILL	Norman	26/05/91 \$579,749	BARKER 91-NP-146	
PHYSICOCHEMICAL PROCESSES IN ADVA THERMAL/PHYS CATHODE MATERIALS SYSTEMS Research Institute of Tech	Ohlmer	Norman	26/05/91 \$595,553	BARKER 91-NP-147	
TOUS LOCKING OF FREE ELECTRON SOURCES OF MICROWAVE MILLIMETER Univ of Southern Cal -- Dept of Elec Eng	McCurdy	Alan	26/05/91 \$533,819	A BARKER 91-NP-124	\$199,826 30/09/91 \$598,819
MICROWAVE AND MILLIMETER WAV. SOURCE BASED ON ROUST HIGH CURRENT COLLOID CATHODE ELECTRON BEAM Univ of Southern Cal -- Dept of Elec Eng	Goldstein	Martin	26/05/91 \$533,763	D BARKER 91-NP-125	
AN ASSESSMENT OF PLASMA PROCESSING OF MATERIALS National Science Foundation	Faylor	Donald	26/05/91 \$10,000	A BARKER 91-NP-150	\$10,000 01/06/91 \$10,000
ASSESSMENT OF FUTURE OPPORTUNITIES IN ATOMIC, MOLECULAR, AND OPTICAL SCIENCES National Science Foundation	Smith	Steven	26/06/91 \$22,530	A KELLEY 91-NP-170	\$22,530 01/07/91 \$22,530
AN INTERNATIONAL FREE ELECTRON LASER CONCEPT Los Alamos N. 1 Lab--Applied Photonics Lab	Norman	Norman	26/05/91 \$10,000	A SCHLOSSER 91-NP-161	\$10,000 01/08/91 \$10,000

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FIELD TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIAL START DATE TOT AMT
NONLINEAR PHOTON LOCALIZATION FOR HIGH ENERGY LASER PROTECTION SYSTEMS FOR PHOTO FACTORS BY THE City College - CUNY	Alfano	N 36 23/04/91 \$300,000	A SCHLOSSER 91-NP-107	\$30,000 15/07/91 \$300,000
STABLE MID-AND HARMONIC (Y)-AMPLIFIER Univ of California	Lundman	N 36 02/05/91 \$513,771	A BARKER 91-NP-112	\$196,707 30/09/91 \$513,771
NEGATIVE ENERGY CYCLOTRON SUBHARMONIC MAGNET Univ of California	Lundman, Jr	N 36 02/05/91 \$600,000	D BARKER 91-NP-113	
LARGE CROSS-SECTION, CO-AXIAL AM-PLIFIER Univ of California	Porter	N 36 02/05/91 \$522,223	D BARKER 91-NP-114	
RADIO-FREQUENCY VACUUM ELECTRONICS RESEARCH PROGRAM Univ of California	De Groot	N 36 02/05/91 \$603,587	D BARKER 91-NP-115	
COMPUTER SIMULATIONS OF PLASMA-FILLED BACKWARD WAVE OSCILLATOR AND GYROTRON AMPLIFIER Univ of California	Lin	N 36 02/05/91 \$600,000	D BARKER 91-NP-119	
LATERAL VACUUM MICROELECTRONIC EMITTERS AND PUT Univ of California	Mishra	N 36 02/05/91 \$199,086	D BARKER 91-NP-139	
FIELD EMISSION MICRO-CATHODES FOR MICROWAVE APPLIED APPLICATIONS Univ of California	Hunt	N 36 02/05/91 \$368,335	D BARKER 91-NP-140	
COMPUTER SIMULATIONS OF RADIATION GENERATION FROM RELATIVISTIC ELECTRON BEAMS Univ of California	Lin	N 12 17/06/91 \$120,000	A BARKER 91-NP-177	\$120,000 01/10/91 \$120,000

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 ALL PROPOSALS ARE SCIENTIFIC IN NATURE  
 AND OF INTEREST TO PHYSICAL AND GEOGRAPHICAL SCIENTISTS

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TITLE (CONT.) INSTITUTION	PI	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ENHANCED VACUUM FIELD EMISSION DEVICES VIA THE USE OF SURF MODIFICATIONAL FILMS North Carolina State University	Robert Davis	N 26 02/05/91 \$595,000	BARKER 91-NP-137	
PRECISE TIME AND TIME INTERVAL MEASUREMENT Lawrence Livermore Laboratory	Kleberlynski	N 12 14/05/91 \$20,000	A KELLEY 91-NP-159	\$20,000 01/06/91 \$20,000
PHOTONIC ACTIVITIES NASA - Goddard Space Administration	Saltschuk	N 06 17/04/91 \$20,000	A LEWIS 91-NP-103	\$20,000 01/04/91 \$20,000
EXPERIMENTAL AND THEORETICAL STUDY OF HIGH CURRENT DENSITY NOVEL EMITTER SOURCES Pennsylvania State University	Paul Gutter	N 36 02/05/91 \$597,838	A BARKER 91-NP-122	\$210,560 30/09/91 \$597,838
VACUUM MICROELECTRONICS FOR IMAGING DEVICES Texas A and M Research Foundation	McIntyre Peter	N 36 02/05/91 \$500,183	D BARKER 91-NP-142	
PHYSICAL PROPERTIES OF METALLIC TRANSITION METAL CARBIDES Orion Graduate Center for Study & Resch	Paul Davis	N 36 02/05/91 \$321,751	BARKER 91-NP-129	
LIGHT AND PERTINENT CRYSTALS FOR IN SITU MEASUREMENTS AND COMPARISON WITH NUMERICAL SIMULATIONS Northwestern University	Chun Chun	N 36 02/05/91 \$552,290	A BARKER 91-NP-135	\$183,323 30/09/91 \$552,290
HIGH FREQUENCY ALTERNATING VIBRATION TECHNIQUE TO COMPENSATE FOR RING LASER LOCK-IN Colorado School of Mines	Frank Kowalski	N 24 21/05/91 \$144,100	SCHLOSSER 91-NP-162	
ANALYSIS OF THE EFFECTS OF SOLAR ACTIVITY INDICATORS Univ of New Hampshire	Greg Raduski	N 36 04/06/91 \$611,878	RADUSKI 91-NP-171	





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TITLE FILE (CONF.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
BASIC STUDIES IN PLASMA PHYSICS Rutgers - The State University	Libowitz	2 36 03/06/91 \$472,375	BARKER 91-NP-169	
LOWEL MILLIMETER WAVE CYCLOTRON AMPLIFIER Massachusetts Institute of Technology	Kennedy	N 36 02/05/91 \$300,000	BARKER 91-NP-117	
DOUBLE STRAP CYCLOTRON WAVE Massachusetts Institute of Technology	Seall	N 36 02/05/91 \$600,000	BARKER 91-NP-121	
WAVE-DRIVE AMPLIFIER RESEARCH AT MILLIMETER WAVELLENGTHS Massachusetts Institute of Technology	Smith	N 36 02/05/91 \$600,000	BARKER 91-NP-150	
PHOTONIC PHOTONICS: FUNDAMENTAL PHENOMENA AND DEVICE BEHAVIOR Massachusetts Institute of Technology	Smith	N 36 06/06/91 \$1,020,000	SCHLOSSER 91-NP-174	\$23,800 01/09/91 \$1,078,800
MICROWAVE EMISSION FROM RELATIVISTIC ELECTRON BEAMS Massachusetts Institute of Technology	Seiff	2 12 10/06/91 \$90,000	BARKER 91-NP-175	
INTERACTIONS WITHIN A LAPSE BEAM AND THE MICROWAVE FILLOS OF A CUBITRON - INVERTED CUBITRON PAIR Polytechnic Institute of New York	Kuo	N 36 02/05/91 \$500,665	BARKER 91-NP-128	
MEASUREMENTS OF ATOMIC INTERACTIONS AND FREQUENCY STABILITY WITH A CYCLOTRON HYDROGEN MASER Michigan State University	Wassot	N 16 13/04/91 \$238,346	KELLEY 91-NP-101	\$55,093 01/06/91 \$422,599
PHOTONIC PHOTONICS: GENERATION AND DETECTION OF PHOTONIC THERMITY Polytechnic Institute of New York	Seiff	2 36 03/04/91 \$598,604	SCHLOSSER 91-NP-098	\$269,100 01/10/91 \$598,189

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FILE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
CHAOTIC DYNAMICS OF THE SOLAR CYCLE Columbia University	David	R 26 30/04/91 \$215,000	A RADOSKI 91-NP-109	\$215,000 01/11/91 \$676,000
DEVELOPMENT OF A SUPPLEMENTAL COLLECTION LINE OPTICAL FOR LABORATORY AND ASTRONOMY USE Stanford University	David	N 36 02/05/91 \$540,177	D BARKER 91-NP-127	
PROPOSED MODEL FOR MILLIMETER CORROSION-INDUCED VIBRO Clarkson University	David	N 36 02/05/91 \$438,779	D BARKER 91-NP-133	
ENVIRONMENTAL CONDITIONS RESPONSIBLE FOR SOLA ACTIVITY Stanford University	Peter	N 26 06/05/91 \$755,317	A RADOSKI 91-NP-154	\$241,976 01/10/91 \$755,317
ATOM FOUNTAIN MICROAVL CLOCK Stanford University	Steven	N 24 06/05/91 \$250,000	A KELLEY 91-NP-157	\$113,804 01/08/91 \$250,000
COOLING AND TRAPPING OF ATOMS AND PARTICLES Stanford University	Steve	N 36 30/05/91 \$577,360	A KELLEY 91-NP-167	\$180,000 01/09/91 \$597,360
SUBPICONSECOND ELECTRO-OPTIC SAMPLING Stanford University	David	R 26 18/06/91 \$609,586	SCHLOSSER 91-NP-178	
SINGLE CRYSTALLINE BARED VACUUM MICROELCTRONIC FIELD EMITTERS New Jersey Institute of Technology	Kuan	N 36 02/05/91 \$473,719	D BARKER 91-NP-148	
EXPERIMENTAL & THEORETICAL PHYSICS RESEARCH IN INTERNAL - ELECTROSTATIC OPTICALLY-INDUCED PLASMAS University of California, San Diego	Robert	N 36 18/06/91 \$323,000	D BARKER 91-NP-179	

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TITLE  
 FILE (COUNT)  
 INSTITUTION

VACUUM MICRO-ELECTRONIC JOSEPHSON JUNCTIONS

JOSEPHSON UNIVERSITY

MARK

STERNOV THE MITCHELL JONES

Cornell University

JOHN

ATOMIC AND MOLECULAR IMAGING WITH LIGHT

Cornell University

ADAM

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
N 36 02/05/91 \$478,334	D BARKER 91-NP-118	
N 26 02/05/91 \$566,390	D BARKER 91-NP-138	
N 12 07/05/91 \$115,444	A SCHLOSSER 91-NP-155	\$20,000 01/09/91 \$115,444